AFGHAN NATIONAL POLICE STANDARD BUILDING DESIGNS

VEHICLE MAINTENANCE & POL BUILDING

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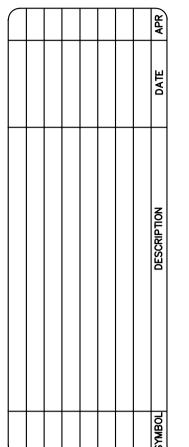
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DATE:	09-30-09	SUBMITTED BY:	BAKER	FILE NO.:	ANPSDG-001XXX
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	Michael Rober Jr. Inc	A unit of Michael Baker Corporation	Airside Business Park 100 Airside Drive	Moon Township PA 15108	www.mbakercorp.com

AFGHAN NATIONAL POLICE STANDARD DESIGN VEHICLE MAINTENANCE & POL BUILDING COVER SHEET

SHEET REFERENCE NUMBER:

OS SUBMISSIC

UNIFIED FACILITIES CRITERIA UNLESS OTHERWISE NOTED

VERT

W W/ VERTICAL

WIDTH

WITH

GENERAL NOTES

1.0 THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS AND MATERIALS INDICATED ON THE SHEETS AND FOR THE LIVE LOADS INDICATED IN THE DESIGN CRITERIA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGING, BRACING, SHEETING AND SHORING, ETC.

1.1 COORDINATE THESE SHEETS WITH THE ARCHITECTURAL, MECHANICAL ELECTRICAL, PLUMBING, AND CIVIL SHEETS. ALL DIMENSIONS SHOWN ON THE SHEETS ARE MILLIMETERS UNLESS NOTED OTHERWISE

1.2 THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL FLOOR AND ROOF OPENING SIZES AND LOCATIONS, EQUIPMENT PAD SIZES AND LOCATIONS, ANCHOR BOLT LAYOUTS, ETC WITH EQUIPMENT SELECTED. THE CONTRACTOR SHALL MAKE ANY REQUIRED MODIFICATIONS AT NO ADDITIONAL COST.

1.3 THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING SHEETS FOR SLEEVES, CURBS, INSERTS OR OPENINGS, ETC. NOT HEREIN INDICATED.

1.4 SLAB OPENINGS SMALLER THAN 250mm DIA TO BE CORE DRILLED IN FIELD UON. SEE MECHANICAL, ELECTRICAL AND PLUMBING SHEETS FOR LOCATIONS OF THESE OPENINGS.

1.5 WORK NOT INCLUDED ON THE SHEETS BUT IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES ELSEWHERE ON THE SHEETS SHALL BE REPEATED.

1.6 IN CASE OF CONFLICT BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS THE MOST RIGID REQUIREMENTS SHALL GOVERN.

1.7 SEE ARCHITECTURAL SHEETS FOR LOCATIONS OF MASONRY AND DRYWALL NON-LOAD BEARING PARTITIONS. PROVIDE COMPRESSIBLE FIRESAFING AT TOP OF WALL AS REQUIRED BY ARCHITECTURAL SHEETS.

1.8 COORDINATE FINISHED FLOOR DATUM ELEVATION 0.0m WITH THE CIVIL SHEETS.

1.9 DESIGN PRE-ENGINEERED METAL BUILDINGS IN ACCORDANCE W/ MBMA LATEST EDITION PER DESIGN CRITERIA ON SHEET S2.

2.0 <u>FOUNDATION NOTES</u>

THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED ON SHEET S2 SHALL BE IMMEDIATELY BROUGHT 3.14 ADDITIONAL BARS SHALL BE PROVIDED AROUND ALL FLOOR AND WALL TO THE ATTENTION OF THE CONTRACTING OFFICER FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.

2.2 SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS TO THOSE OUTLINED IN THE GEOTECHNICAL INVESTIGATION FOR EXCAVATION AND PREPARATION OF THE FOUNDATION AND THE SLAB ON GRADE SUBGRADE INCLUDING COMPACTION PROCEDURES.

2.3 EXCAVATIONS FOR FOOTINGS SHALL HAVE THE SIDES AND BOTTOMS TEMPORARILY LINED WITH 0.25mm POLYETHYLENE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HRS OF THE EXCAVATION OF THE FOOTING.

2.4 FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE GENERAL CONTRACTOR BEFORE FURTHER CONSTRUCTION IS ATTEMPTED. SEE PROJECT SPECIFICATIONS.

2.5 NO FOOTINGS OR SLABS SHALL BE POURED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE OR LOOSE MATERIAL. FROST DEPTH ASSUMED TO BE 800MM

2.6 ALL SLAB-ON-GRADE, TRENCH BOTTOMS AND OTHER ON-GRADE INTERIOR HORIZONTAL SURFACES SHALL BE PLACED OVER A 0.25mm VAPOR RETARDER OVER A 100mm #57 STONE WATER BARRIER PLACED ON SUBGRADE PROPERLY PREPARED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. (UON)

2.7 SEE PLUMBING, ELECTRICAL & CIVIL SHEETS FOR REQUIRED UNDERSLAB UTILITIES.

2.8 SEE ARCHITECTURAL SHEETS FOR ALL WATERPROOFING DETAILS AND **MATERIALS**

2.9 IF UNDERMINING OF FOOTINGS OCCURS, FILL VOIDS WITH 15MPa CONCRETE. DO NOT ATTEMPT TO REPLACE AND RECOMPACT SOIL.

3.0 CONCRETE

3.1 CONCRETE SHALL HAVE THE UNIT WEIGHT AND THE MINIMUM COMPRESSIVE STRENGTHS (f'c) AT 28 DAYS AS SHOWN IN THE CONCRETE MATERIALS SCHEDULE ON SHEET S3. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. ENTRAIN AIR TO PRODUCE TOTAL AIR CONTENT ACCORDING TO THE SPECIFICATIONS FOR CONCRETE EXPOSED TO FREEZING TEMPERATURES (EXTERIOR FOOTINGS, SLAB TURNDOWNS, EXTERIOR SLABS AND SLABS-ON-GRADE, EXTERIOR RETAINING WALLS, AND EXTERIOR GRADE BEAMS.)

3.2 GROUT FOR BASE PLATES SHALL BE NON-SHRINKABLE GROUT AND SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH AT 28 DAYS OF 35MPa, UNLESS NOTED OTHERWISE.

3.3 NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.

3.4 MIXING, TRANSPORTING AND PLACING OF CONCRETE SHALL CONFORM TO ACI 301M-05

3.5 ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE (ACI) 318M MANUAL (metric), "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND REQUIREMENTS OUTLINED IN THE CONTRACT SPECIFICATIONS. WHEN THERE IS A CONFLICT BETWEEN ACI AND THE SPECIFICATIONS, THE MORE STRINGENT SHALL GOVERN.

3.6 CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 20mm x45 DEGREE CHAMFER UON.

3.7 CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615M-96a, GRADE 420 MPa. REINFORCING BARS SHALL NOT BE TACK WELDED. WELDED, HEATED OR CUT, UNLESS INDICATED ON THE CONTRACT DOCUMENTS. ALL LAP SPLICES SHALL BE CLASS "B" UON.

HORIZONTAL FOOTING AND HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS AND SHALL HAVE 90 DEGREE BENDS AND EXTENSIONS, OR CORNER BARS OF EQUIVALENT SIZE LAPPED WITH A CLASS B TENSION SPLICE AT CORNERS AND INTERSECTIONS. TOP BAR CRITERIA SHALL APPLY IF 300mm OR MORE OF FRESH CONCRETE IS PLACED BELOW

3.9 SLABS—ON—GRADE SHALL HAVE CONSTRUCTION JOINTS OR CRACK CONTROL JOINTS AS SHOWN ON THE SHEETS. CONSTRUCTION JOINTS CAN BE USED AT CONTROL JOINT LOCATIONS AT CONTRACTORS OPTION. SEE SLAB PLANS & JOINT DETAILS FOR ADDITIONAL INFORMATION. FOR AREAS NOT SHOWN ON SHEETS, THE MAXIMUM SPACING OF CONSTRUCTION/ CRACK CONTROL JOINTS SHALL BE 4800mm

3.10 SEE SPECIFICATIONS FOR ALL WATERPROOFING/DAMPPROOFING REQUIREMENTS.

3.11 ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318M, AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315M, LATEST EDITION.

3.12 SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT, SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.

3.13 ALL DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING, UNLESS NOTED OTHERWISE ON SHEETS.

OPENINGS AS SHOWN ON THE SHEETS.

3.15 SEE ARCHITECTURAL SHEETS FOR TYPE AND LOCATION OF ALL FLOOR FINISHES. 3.16 THE CONTRACTOR SHALL COORDINATE ADDITIONAL WALL/SLAB OPENINGS

NOT SHOWN ON STRUCTURAL SHEETS. SEE MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL SHEETS. 3.17 UNLESS NOTED OTHERWISE, ALL CURBS SHALL BE REINFORCED WITH AT LEAST (1)-#13 CONTINUOUS AND #13 AT 300mm O.C. DOWELS TO

STRUCTURE BELOW. 3.18 THE SUB-CONTRACTOR SHALL VERIFY ALL OPENINGS, PAD SIZES, AND ANCHOR BOLTS WITH EQUIPMENT SELECTED.

3.19 FOR ALL WALLS & PIERS, PROVIDE DOWELS INTO FOOTING AT EACH VERT REINF BAR, UON DOWEL SIZE SHALL BE SAME AS VERT REINF.

3.20 ALL DEFORMED BAR ANCHORS SHALL BE TRS NELSON DIVISION OR EQUAL 15mm DIA (UON) CONFORMING TO ASTM A-496M WITH A MINIMUM TENSILE STRENGTH OF 550 MPa. ANCHOR DIMENSIONS SHALL BE IN ACCORDANCE WITH ASTM D-19. INSTALL ANCHORS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS BY AUTOMATIC END WELDING AS INDICATED ON THE DRAWINGS. NO UNAUTHORIZED OR FIELD WELDING SHALL BE MADE WITHOUT AUTHORIZATION FROM THE MANUFACTURER.

3.21 ALL REINFORCING INDICATED TO BE WELDED SHALL BE IN ACCORDANCE WITH ASTM A706M. "LOW ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT". ANY INSTALLATIONS USING MANUFACTURER'S EQUIPMENT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

3.22 PROVIDE CONCRETE POUR STOPS OR FORMS AS REQUIRED FOR INSTALLATION OF ALL CONCRETE WORK.

3.23 PROVIDE ADDITIONAL $(2)-\#13 \times 600$ mm REINFORCING BARS IN SLAB-ON-GRADE AT ALL RE-ENTRANT CORNERS. PLACE BARS AT MID-DEPTH OF SLAB WITH A CLEARANCE OF 50mm FROM CORNER UON.

4.0 <u>CONCRETE MASONRY</u>

4.1 MASONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF THESE CONTRACT DOCUMENTS AND THE PROJECT SPECIFICATIONS.

4.2 THE SPECIFIED ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE MASONRY (f'm) ON THE NET AREA IS A MINIMUM OF 10.4 MPa.

4.3 PROVIDE TWO #16 BARS CONTINUOUS IN ALL CMU AND CAST-IN-PLACE BOND BEAMS UON ON THE SHEETS. INTERMEDIATE BOND BEAMS SHALL BE CONTINUOUS AND SPACED AT A MAXIMUM OF 1200mm OC VERTICALLY. ALL BOND BEAMS SHALL BE A MINIMUM OF 200mm IN DEPTH WITH REINFORCING BEING CONTINUOUS AND HAVING STANDARD ACI HOOKS AT EACH END. PROVIDE STANDARD BAR SPLICES AS SPECIFIED.

4.4 FOR MINIMUM WALL REINFORCING, SEE MIN CMU WALL REINFORCING DETAILS ON SHEET S10.

4.5 CMU CELLS THAT REQUIRE VERTICAL REINFORCING BARS AS INDICATED ON THE CONTRACT DRAWINGS AND/OR SPECS SHALL HAVE REINF BAR PLACED IN CENTERS OF CMU CELLS AND CONTINUOUSLY GROUTED UON.

4.6 PROVIDE LADDER TYPE JOINT REINFORCEMENT AT 200mm FOR EXTERIOR & 400mm FOR INTERIOR ON CENTER MAXIMUM, UON MINIMUM ROD SIZE USED SHALL BE 9 GA. DEFORMED WIRE AND CONFORM TO ASTM A82M,

4.7 PROVIDE CONTROL JOINTS AS INDICATED ON THE ARCHITECTURAL SHEETS. 6.7 4.8 GROUT FOR MASONRY SHALL BE NORMAL WEIGHT AND HAVE A MINIMUM

COMPRESSIVE STRENGTH OF 25 MPa AT 28 DAYS. GROUT SHALL CONFORM TO ASTM C476M. GROUT LIFTS SHALL NOT EXCEED 1400mm.

4.9 USE MORTAR TYPE S CONFORMING TO ASTM C270M, SEE SPECIFICATIONS. 4.10 CONCRETE MASONRY UNITS SHALL BE NORMAL WEIGHT AND CONFORM TO ASTM C90M.

4.11 ALL CMU CELLS, OPEN CAVITIES, AND AIR SPACES SHALL BE GROUTED. TO STOP FRAGMENTS FROM MORTAR BLAST

4.12 BOND BEAM REINFORCING SHALL BE DISCONTINUOUS AT CONTROL JOINTS (UON). MAXIMUM CONTROL JOINT SPACING SHALL BE AS INDICATED ON THE ARCHITECTURAL SHEETS

4.13 CONTRACTOR SHALL COORDINATE LOCATION OF ALL OPENINGS SEE ARCH, MECH, ELEC, AND PLUMBING SHEETS. FOR SIZE AND LOCATION OF

4.14 MASONRY WALLS SHALL NOT BE BACK FILLED PRIOR TO THE MORTAR AND GROUT ATTAINING THEIR RESPECTIVE MAXIMUM DESIGN STRENGTHS PER SPECIFICATIONS.

5.1 STEEL DECK SHALL BE ASTM A611M, GRADES C & D OR A653M STRUCTURAL QUALITY HAVING A MINIMUM YIELD STRENGTH OF 345 MPa AS PER THE STEEL DECK INSTITUTE (SDI) DESIGN MANUAL

STEEL DECK SHALL BE ERECTED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND ERECTION LAYOUTS AND CONNECTED TO SUPPORTING MEMBERS AS INDICATED.

5.3 <u>COMPOSITE FLOOR DECK</u>

5.3.1 STEEL FLOOR DECK SHALL BE 51mm RIB HEIGHT, 18 GA HOT-DIP GALVANIZED (SDI TYPE 2VLI-18) UON.

5.3.2 FLOOR DECK SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

18 GAUGE MOMENT OF INERTIA, Ip 760mm4/mm WIDTH SECTION MODULUS (TOP OF DECK), Sn 27.5mm3/mm WIDTH SECTION MODULUS (BOTT OF DECK) Sp 27.8mm3/mm WIDTH

5.3.3 FLOOR DECK SHALL BE FASTENED TO THE SUPPORTS AS INDICATED IN THE BOTTOM OF THE FLUTES USING A SDI 36/7 PATTERN. DECK SIDELAPS SHALL BE ATTACHED USING #10 SELF-TAPPING TEK SCREWS WITH A MINIMUM 3-SIDE LAP CONNECTIONS PER SPAN.

5.3.4 SUSPENDED CEILINGS, LIGHT FIXTURES, DUCTS, CONDUITS, PIPING OR

OTHER UTILITIES SHALL NOT BE SUPPORTED BY THE STEEL FLOOR DECK. 5.3.5 IN ADDITION TO MEETING THE MINIMUM REQUIREMENTS ABOVE, THE DECK MANUFACTURER SHALL DESIGN THE FLOOR DECK AND ATTACHMENTS TO STEEL FOR A MAXIMUM DEFLECTION DUE TO WET CONCRETE & 1 KPa CONSTANT LOAD OF L/240. FLOOR DECK SHALL NOT REQUIRE SHORING DURING CONCRETE PLACEMENT.

STRUCTURAL STEEL STRUCTURAL STEEL ROLLED SHAPES AND PLATES SHALL CONFORM TO 6.1 THE MATERIAL INFORMATION SCHEDULE. DIMENSIONS AND PROPERTIES SHALL BE IN ACCORDANCE TO ASTM A36M.

6.2 ANCHOR BOLTS SHALL CONFORM TO ASTM A36M HEAVY HEX UNLESS NOTED OTHERWISE.

6.3 CONNECTION BOLTS FOR STRUCTURAL STEEL MEMBERS SHALL BE 20 DIA ASTM A325M-N, UON; NUTS SHALL CONFORM TO ASTM A563M; WASHERS SHALL CONFORM TO ASTM F436M. CONNECTION BOLTS SHALL HAVE A HARDENED WASHER PLACED UNDER THE ELEMENT TO BE TIGHTENED.

6.4 DETAILING OF STRUCTURAL STEEL CONNECTIONS MUST BE CONSISTENT WITH RECOGNIZED, PUBLISHED METHODS SUCH AS IN THE AISC "STEEL CONSTRUCTION MANUAL", THIRTEENTH EDITION; "ENGINEERING FOR STEEL CONSTRUCTION", OR "VOLUME II CONNECTIONS MANUAL OF STEEL CONSTRUCTION".

6.4.1 THE CODE OF STANDARD PRACTICE OF AISC THIRTEENTH EDITION IS AMENDED SUCH THAT THE FABRICATOR/DETAILER IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF ALL CONNECTIONS

6.5 STANDARD FRAMING CONNECTIONS SHALL BE DETAILED BY THE FABRICATOR IN ACCORDANCE WITH THE AISC "STEEL CONSTRUCTION MANUAL". THIRTEENTH EDITION. CONNECTIONS SHALL BE DESIGNED TO DEVELOP A MINIMUM END REACTION OF 54kN.

6.5.1 UNLESS NOTED OTHERWISE AS THUS: (##kN), CONNECTIONS SHALL BE DESIGNED AND DETAILED FOR THE END REACTION DETERMINED FROM PART 2 - "ALLOWABLE UNIFORM LOAD TABLES" FROM THE AISC STEEL CONSTRUCTION MANUAL 13TH EDITION OR A MINIMUM OF 54 kN WHICH EVER IS GREATER.

6.6 ALL MEMBERS AND CONNECTIONS ON THE CONTRACT DRAWINGS AND CONNECTIONS NOT SHOWN SHALL BE DESIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER, DETAILED AND SUBMITTED FOR APPROVAL AND SHOWN ON THE SHOP DRAWINGS

ALTERNATIVE CONNECTION DETAILS MAY BE SUBMITTED ON SHOP DRAWINGS BY THE CONTRACTOR ONLY IF ACCOMPANIED BY COMPLETE STRUCTURAL CALCULATIONS PREPARED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER AND SUBMITTED FOR REVIEW.

CALCULATIONS FOR DETAILS MUST SHOW A RATIONAL ANALYSIS OF A COMPLETE LOAD PATH, INCLUDING LOCAL EFFECTS ON WEBS, FLANGES, ETC OF THE CONNECTED MEMBERS AND THE DEVICES (PLATES, SEATS, BRACKETS, BOLTS, WEBS, ETC) AFFECTING ALL CONNECTIONS. FAILURE TO SUBMIT SUCH CALCULATIONS FOR REVIEW CONCURRENT WITH SHOP DRAWING ERECTION PLANS AND DETAILS WILL BE CAUSE FOR REJECTION OF THAT SUBMITTAL

6.8.1 ALL SHEAR TAB CONNECTIONS SUBMITTED AS AN ALTERNATE FOR

APPROVAL SHALL BE DESIGNED USING A FLEXIBLE SUPPORT CONDITION. 6.8.2 BEAM AND GIRDER CONNECTIONS SHALL BE DESIGNED SUCH THAT ALL ADDITIONAL STRESSES DUE TO CONNECTION ECCENTRICITY SHALL BE DEVELOPED BY THE CONNECTION AND NOT INDUCE ANY ADDITIONAL STRESSES INTO SUPPORTING MEMBERS.

6.9 STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN" AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" LATEST EDITIONS.

6.10 WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE AWS D1.1. ELECTRODES FOR SHOP AND FIELD WELDS SHALL BE CLASS E70XX. ALL WELDING SHALL BE DONE BY

QUALIFIED, CERTIFIED WELDERS PER THE ABOVE STANDARD 6.11 SHOP AND FIELD TESTING OF WELDS AND BOLTS SHALL BE AS OUTLINED IN THE SPECIFICATIONS.

6.12 ALL FILLET WELDS SHALL BE A MINIMUM OF 5mm UNLESS NOTED **OTHERWISE**

6.13 THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT PRIOR APPROVAL OF THE CONTRACTING OFFICER.

6.14 FOR FLOOR AND ROOF OPENINGS, THE FABRICATOR SHALL VERIFY OPENING LOCATIONS WITH EQUIPMENT SELECTED AND MAKE ANY NECESSARY MODIFICATIONS AT NO ADDITIONAL COST. THE CONTRACTOR SHALL COORDINATE MECHANICAL UNITS AND OPENINGS & ARCHITECTURAL ITEMS REQUIRED FOR COMPLETE INSTALLATION OF WORK. IT IS THE RESPONSIBILITY OF FABRICATOR TO RECEIVE ALL NECESSARY INFORMATION PRIOR TO FABRICATION OF THE STEEL

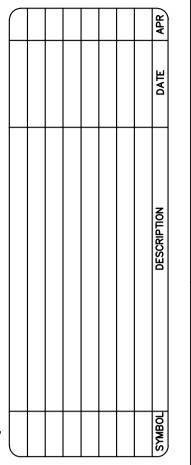
6.15 ALL STRUCTURAL STEEL SHALL BE PRIMED AS PER THE SPECIFICATIONS. 6.16 ALL PLATES NOT INDICATED SHALL BE 13mm MIN THICKNESS. ALL ANGLES NOT INDICATED SHALL BE 76x76x7.9 MIN. ALL WELDS NOT

INDICATED SHALL BE 6mm MIN ALL AROUND UON 6.17 SEE MECHANICAL, ELECTRICAL, AND PLUMBING SHEETS FOR ADDITIONAL OPENINGS NOT SHOWN. ALL OPENINGS SHALL BE FRAMED 4 SIDES WITH C200x17'S UON.

HAH US Army Corps of Engineers Afghanistan

Engineer

District



	DESIGNED BY: DATE:	DATE:
Michael Bakar Ir Jac	MJJ	09-30-0
Microsoft Daket Off., Inc. A unit of Michael Baker Corporation	DWN BY:	SUBMITTED BY:
Airside Business Park 100 Airside Drive	RCG	BAKER
Moon Township PA 15108	CHK BY:	FILE NO.:
www.mbakercorp.com	CWW	ANPSDS-00

6

IAN NATIONAL F STANDARD DESIGN MAINTENANCE & POL NOTES GENERAL

> SHEET REFERENCE NUMBER:

S1

STRUCTURAL DESIGN CRITERIA

ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE IBC 2006 AS APPLICABLE

1.0 DESIGN LOADS

1.1 DEAD LOADS

1.1.1 ROOF DEAD LOADS - PRE-ENGINEERED FRAMING

	MAXIMUM GRAVITY LOAD	MINIMUM GRAVITY LOAD
STEEL FRAMING METAL DECKING/ROOFING MECH/ELEC/PLUMBING METAL PANEL CEILING MISC	0.20 KPa 0.14 KPa 0.15 KPa 0.15 KPa 0.40 KPa	0.15 KPa 0.05 KPa 0.10 KPa 0.15 KPa 0.00 KPa

1.2 LIVE LOADS (PER IBC 2006)

1.2.1 ELEVATED SLAB

STORAGE AREA

4.80 KPa

1.2.2 ROOF LIVE LOADS: ALL BUILDINGS

GREATER OF 1.0 KPa MINIMUM OR SNOW LOAD

1.2.3 SLAB-ON-GRADE LIVE LOADS

ALL BUILDINGS

4.80 KPa

1.3 SNOW LOADS (PER IBC 2006)

1.3.1 DESIGN PARAMETERS

GROUND SNOW LOAD (per UFC 3-310-01)	1.0 KPa
SNOW IMPORTANCE FACTOR	1.0
SNOW EXPOSURE FACTOR	1.0

1.4 SEISMIC LOADS (PER IBC 2006 & UFC 3-310-04)

SEISMIC OCCUPANCY CATEGORY

1.4.1 SEISMIC PARAMETERS - PRE-ENGINEERED BUILDINGS

SEISMIC IMPORTANCE FACTOR (I)	1.0
SEISMIC SITE CLASS	D
Ss	1.280
S1	0.510
Sds	0.853
Sd1	0.510
SEISMIC DESIGN CATEGORY	D
SEISMIC RESISTING SYSTEM	MOMENT RESISTING FRAME
	INTERMEDIATE STEEL MOMENT FRAMES
RESPONSE MODIFICATION FACTOR (R) 4.5
RESPONSE COEFFICIENT (Cs)	EQUIV LATERAL FORCE
SEISMIC ANALYTICAL PROCEDURE	111.2kn
SEISMIC BASE SHEAR	0.133

1.5 WIND LOADS (PER IBC 2006)

1.5.1 DESIGN PARAMETERS

BASIC WIND SPEED	137 Km/
WIND IMPORTANCE FACTOR	1.
WIND EXPOSURE CATEGORY	
DIRECTIONALITY COEFFICIENT (Kd)	0.8
TOPOGRAPHIC FACTOR (Kzt)	1.

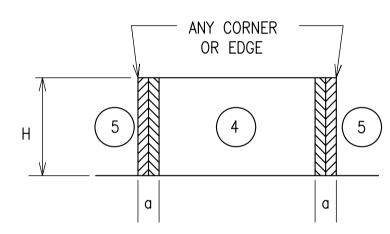
1.5.2 DESIGN WIND PRESSURE - MAIN WINDFORCE RESISTING SYSTEM

LOCATION	CORNER ZONE WIDTH "a"	MEAN ROOF HEIGHT (h)	WINDWARD WALL (@ MEAN ROOF HEIGHT)	LEEWARD WALL (@ MEAN ROOF HEIGHT)	ROOF
FIELD ZONE	N/A	6544mm	600 N/m²	-570 N/m ²	-780 N/m ²
CORNER ZONE	1440mm	6544mm	830 N/m²	-680 N/m²	-1130 N/m ²

a = 10% OF LEAST HORIZONTAL DIMENSION OR 0.4h,
 WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4%
 OF LEAST HORIZONTAL DIMENSION OR 0.9M.
 h = MEAN ROOF HIEGHT, IN METERS, EXCEPT THAT EAVE
 HIEGHT SHALL BE USED FOR ANGLE GREATER THAN 10°.

1.5.3 DESIGN WIND PRESSURE - WALL COMPONENTS AND CLADDING

EXTERIOR WALL SYSTEMS & THEIR ATTACHMENTS TO THE PRIMARY STRUCTURE SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE DIAGRAM BELOW:



LOCATION	WINDWARD PRESSURE N/m² (inward)		LEEWARD N/m² (a	
	4	5	4	5	
MAIN BUILDING					(mm)
$AREA = 1 m^2$	1050	1050	-1140	-1410	1440
$AREA = 2 m^2$	1010	1010	-1100	-1310	1440
$AREA = 5 m^2$	910	910	-1000	-1120	1440
$AREA = 10 \text{ m}^2$	820	820	-910	-930	1440

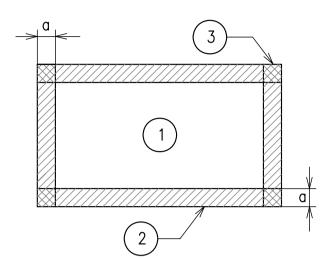
NOTES

- 1. DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- 2. LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
 3. PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE
- EXTERIOR SURFACE, RESPECTIVELY.

1.5 WIND LOADS (CONT)

1.5.4 DESIGN WIND PRESSURE - ROOF COMPONENTS AND CLADDING

ROOF COMPONENTS & THEIR ATTACHMENTS SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE ADJACENT DIAGRAM & TABLE BELOW:



ROOF MEAN HEIGHT

LOCATION		GROSS UPLIFT PRESSURE N/m² (upward)			а
		1	2	3	
	MAIN BUILDING				(mm)
	$AREA = 1 m^2$	-970	-1670	-2480	1440
	$AREA = 2 m^2$	-950	-1540	-2320	1440
	$AREA = 5 m^2$	-880	-1260	-1990	1440
	$AREA = 10 m^2$	-880	-1240	-1960	1440

NOTES:

DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
 LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
 PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

2.0 FOUNDATION DESIGN CRITERIA (TO BE CONFIRMED BY THE CONTRACTOR)

THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED BELOW SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.

2.1.1 SOIL DESIGN PARAMETERS

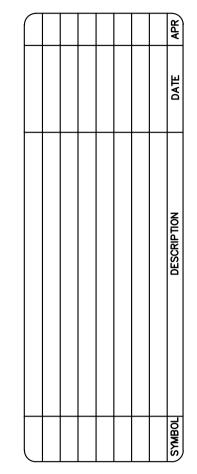
MINIMUM BEARING DEPTH BELOW GRADE

SEISMIC SITE CLASS (based on in-situ soil)

NET ALLOWABLE SOIL BEARING CAPACITY	96.0 KPa
UNIT WEIGHT OF SOIL (moist)	1800 Kg/m ³
COEFF ACTIVE EARTH PRESSURE (Kpa)	0.30
COEFF PASSIVE EARTH PRESSURE (Kpp)	3.33
COEFF AT-REST EARTH PRESSURE (Kpr)	.55
COEFF OF SOIL FRICTION	.35
SUBGRADE MODULUS	4120 g/m ³

800mm

US Army Corps of Engineers Afghanistan Engineer District



WJJ	60-30-60
DWN BY:	SUBMITTED BY:
RCG	BAKER
CHK BY:	FILE NO.:
CWW	ANPSDS-002XXX

Michael Baker Jr., Inc A unit of Michael Baker Corporati Airside Business Park 100 Airside Drive Moon Township PA 15108

AFGHAN NATIONAL POLICE STANDARD DESIGN VEHICLE MAINTENANCE & POL BUILDING

SHEET REFERENCE NUMBER:

T NCE ER:

MINIMUM LAP SPLICES OF REINFORCING BARS IN TENSION (PER ACI 318M-05)

٠,		~~		0011005
† C	=	28	MPa	CONCRET

	f'c = 28	MPa CONCRE	ETE		
CENTER TO	(TOP	BARS)	(OTHE	R BARS)	
CENTER BAR BAR SPACING SIZE	LESS THAN 4db	4db OR MORE	LESS THAN 4db	4db OR MORE	4db
#10	460	460	410	410	40
#13	660	610	510	480	50
#16	1020	760	790	580	60
#19	1450	910	1120	710	80
#22	1960	1090	1500	840	90
#25	2590	1450	1980	1120	100
#29	3280	1830	2510	1420	110
#32	4140	2340	3200	1780	130
#36	5080	2840	3910	2180	140

NOTES:

- 1. LAP SPLICES ABOVE ARE IN MILLIMETERS UON. 2. YIELD STRENGTH OF REINFORCEMENT, fy, IS
- 400MPa (LAP SPLICE LENGTH IS IN MILLIMETERS). 6. STRAIGHT DEVELOPMENT LENGTH OF AN UNLAPPED
- CONCRETE IS NORMAL WEIGHT (2400Kg/m³).
 TOP BAR INDICATES HORIZONTAL REINFORCEMENT 7. WHICH IS PLACED ABOVE 300mm OR MORE OF FRESH CONCRETE.
- 5. SEE COLUMN SCHEDULE FOR COLUMN AND SHEAR WALL VERTICAL LAP SPLICE.
 - BAR IS EQUAL TO VALUE FROM TABLE DIVIDED BY 1.3. CATEGORY FOR BARS SPACED LESS THAN 4d, OR ON CENTER CORRESPONDS TO CATEGORY 1 IN THE CRSI HANDBOOK WHEREAS FOR BARS SPACED 4d, OR MORE ON CENTER CORRESPOND TO CRSI CATEGORY 5.

STEEL M	MATERIALS SCH	HEDULE
STRUCTURAL ELEMENT	FY YIELD STRENGTH (MPa)	REMARKS
BEAMS & GIRDERS	250	ASTM A36M ASTM A6M
COLUMNS	240	ASTM A53-95 GRADE B ASTM A6M
MISC BRACING	250	ASTM A572M ASTM A6M
CONNECTIONS, PLATES, & ALL OTHERS	250	ASTM A36M ASTM A6M
ANCHOR BOLTS	-	ASTM A36M or A307M ASTM A6M
PIPES	240	ASTM A53-95 GRADE B ASTM A6M
TUBING	345	ASTM A500-93 GRADE C ASTM A6M
HIGH STRENGTH BOLTS	_	ASTM A325M-N
WELDING ELECTRODES	_	AWS D1.1-90 E70xx

CONCRETE COVER SCHEDULE

CONCRETE PROTECTION SPECIFIED.

CONCRETE MATE	RIALS
SCHEDULE	
STRUCTURAL ELEMENT	f'c CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS (MPa)
SLAB-ON-GRADE/TURN-DOWN SLABS	28
ROOF AND FLOOR SLABS	28
ALL FOOTINGS (UON)	28
MISC. CURBS, WALLS AND PADS UON	28
CAST-IN-PLACE LINTEL	28

CONCRETE FRAMING -

BEAMS AND COLUMNS

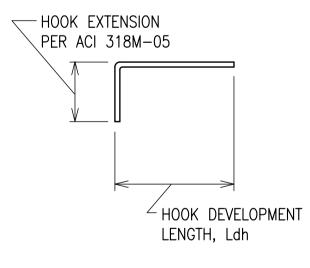
1. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE (2400 Kg/m³ UON)

28

2. ALL CONCRÈTE SHALL HAVE A MAX WATER—CEMENT RATIO OF 0.45.

STANDARD	HOOKS IN
TENSION	PER (ACI
318M	-05)
HOOK DEVELOPMENT	LENGTH Ldh (mm)
BAR SIZE	f'c 28 MPa
#10	180
#13	250
#16	300
#19	380
#22	430
#25	480
#29	560
#32	610

690



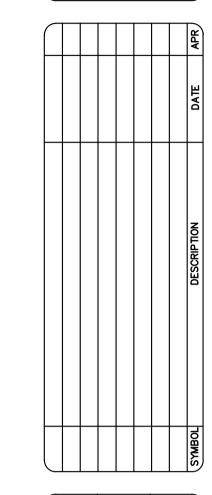
- 1. CONCRETE IS NORMAL WEIGHT CONCRETE.
- 2. BAR YIELD STRENGTH, fy = 420 MPa
- 3. SIDE COVER REQUIREMENTS OF ACI SECT. 12.5.3 ARE ASSUMED TO NOT BE MET.
- 4. TIE OR STIRRUP REQUIREMENTS OF ACI SECT. 12.5.3 ARE ASSUMED TO NOT BE MET.
- 5. REDUCTION FOR EXCESS REINFORCEMENT IS NOT TAKEN.
- 6. HOOK DEVELOPMENT LENGTH IS VALID FOR 180° HOOKS ALSO.

MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS: (SEE ACI 318M-05, SECTION 7.7 FOR CONDITIONS NOT NO DIMENSIONS FOR BAR PLACEMENT GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE MINIMUM COVER REQUIREMENTS GIVEN HERE. DIMENSIONS ARE IN	
SUPERSEDE MINIMUM COVER REQUIREMENTS GIVEN HERE. DIMENSIONS ARE II	v mm.
FOOTINGS (EARTH FORMED)	70
COLUMNS / PIERS (TO TIES)	40
GRADE BEAMS OR SLAB TURNED DOWN EDGES:	
TOP BOTTOM (EARTH FORMED) SIDES (EARTH FORMED) SIDES (BOARD FORMED) #16 BAR & SMALLER #19 THRU #36 BAR	40 70 70 40 50
ELEVATED BEAMS & SLABS: BEAM TIES & STIRRUPS (NOT EXPOSED TO WEATHER) BEAM TIES & STIRRUPS (EXPOSED TO WEATHER)	40 50
FLOOR SLABS (NOT EXPOSED TO WEATHER) FLOOR SLABS (EXPOSED TO WEATHER) #19 & LARGER	20 50
#13 & SMALLER	40
ROOF SLAB BARS	25
SLABS-ON-GRADE (NO EXPOSURE TO WEATHER) FROM TOP SLABS-ON-GRADE (EXPOSURE TO WEATHER) FROM TOP	20 40
UTILITY TUNNEL WALLS, RETAINING WALLS AND SHEAR WALLS, (NO SURFACES SHALL BE EARTH FORMED) EARTH SIDE AND FRONT SIDE (EXPOSED TO WEATHER): #16 BAR AND SMALLER #19 THRU #36 BAR	40 50
PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN	

			SPRE	EAD FOOTING A	ND F	PIER SC	CHEDULE		
MARK		FOOTING SI	ZE	FOOTING REINFORCING			PIER		DEMARKS
MARK	LENGTH	WIDTH	THICKNESS	FOOTING REINFORGING	SIZE	T/PIER	VERT. BARS	TIES	REMARKS
F1	2500	2500	300	(7)-#16 EW T&B	900	-150	(8)-#19	2 SETS #13 @ 125	HAIRPINS REQ'D. SEE DETAILS
F2	1800	1800	300	(5)-#16 EW T&B	900	-150	(8)-#19	#13 @ 250 TOP 2 @ 75	

- 1. DIMENSIONS NOTED ARE MILLIMETERS (mm) UON
- 2. T/PIER ELEV GIVEN IN REFERENCE TO 0.0 mm DATUM OR FÍNISH FLOOR ELEV/SLAB ELEV, DISTANCE ABOVE OR BELOW INDICATED AS NEGATIVE OR POSITIVE.
- 3. PIER SIZE INDICATED IS SQUARE (DIMENSION SAME IN BOTH DIRECTIONS) UON

US Army Corps of Engineers Afghanistan Engineer District



Designed By:	DATE:
MJJ	60-30-00
DWN BY:	SUBMITTED BY:
RCG	BAKER
CHK BY:	FILE NO.:
CWW	ANPSDS-003XXX

AFGHAN NATIONAL POLICE STANDARD DESIGN VEHICLE MAINTENANCE & POL BUILDING

SHEET REFERENCE NUMBER:

400

#13 @ 300

1. STRUCTURAL SHEETS DO NOT INDICATE ALL OPENINGS IN MASONRY WALLS. VERIFY NUMBER, SIZE AND LOCATION OF ALL OPENINGS IN MASONRY WALLS FROM ARCHITECTURAL SHEETS AND APPROVED PLUMBING, MECHANICAL, AND ELECTRICAL SHOP DRAWINGS.

2. PROVIDE 200mm BEARING EA END FOR 200mm DEEP CMU LINTEL BB PROVIDE 400mm BEARING EA END FOR 400mm DEEP CMU LINTEL BB.

2400

3. FOR HEAD DETAILS REFER TO ARCHITECTURAL SHEETS.

4. REINFORCING SHALL BE ASTM A615M, GRADE 420. CONCRETE FOR CAST-IN-PLACE BEAMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 28 MPa AT 28 DAYS.

5. CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS AND SCHEDULES SHOWING SIZE, DETAILS, LOCATIONS, ETC FOR ALL CAST-IN-PLACE BEAMS IN CMU WALLS.

	TYPI	CAL CMU W	all rei	NFORCI	NG SCHEDI	ULE
WALL TYPE	WALL THICKNESS	CONT VERT	CONT CA	AST IN PLACE	BOND BEAM	DEMARKO
WALL TYPE OR LOCATION	(mm)	REINF (CENTERED IN CMU, UON)	DEPTH (mm)	REINF (BOTT UON)	MAX BOND BEAM VERT SPACING(mm)	REMARKS
ALL PERIMETER/EXTERIOR WALLS (UON)	200	1-#16 @ 800	200	2-#16	1200	
NON-LOAD BEARING INTERIOR WALLS WITH TOP AND BOTT SUPPORTS	200	1-#13 @ 1200	200	2-#16	1200	

- REINFORCING SIZES AND SPACING GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE THE ABOVE SCHEDULE REQUIREMENTS. PROVIDE CONTINUOUS CAST IN PLACE CONCRETE BOND BEAM AT ALL WALL LATERAL SUPPORT LOCATIONS.
- REINFORCING INDICATED SHALL BE CONTINUOUS FOR FULL EXTENT OF SPLICE FOLLOWING THE REQUIREMENTS OF THE LAP SPLICE TABLE SHOWN ON THIS SHEET.
- 4. WALLS HAVE BEEN DESIGNATED AS VERTICALLY SPANNING UON AND THEREFORE MUST BE TEMPORARILY SUPPORTED DURING CONSTRUCTION UNTIL THE SUPPORTING DIAPHRAGMS (FLOOR AND ROOF SYSTEMS) HAVE BEEN COMPLETELY INSTALLED. SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 5. ALL CMU WALLS SHALL BE FULLY GROUTED IN LIFTS NOT EXCEEDING THOSE BY CODE (UON)
- 6. SEE TYPICAL CMU WALL DETAILS ON SHEET S10.

MAXIMUM CMU	J WALL	UNSUPPORTED	HEIGHT OR
		ENGTH	
	WALL THICKNESS (mm)	EXTERIOR WALL NON-LOAD BEARING (mm)	INTERIOR NON—LOAD BEARING WALL (mm)
MAX HEIGHT OR LENGTH BETWEEN SUPPORTS	200	4800	7200

NOTE: CMU WALL MAXIMUM LATERAL SUPPORT SPACING GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE THE ABOVE SCHEDULE REQUIREMENTS.

MASON	RY REINFORCING
MINIMU	JM LAP SPLICES
BAR SIZE	BASIC LAP SPLICE Ld FOR CMU REINFORCING
#10	450
#13	600
#16	750
#19	900
#22	1050
#25	1200

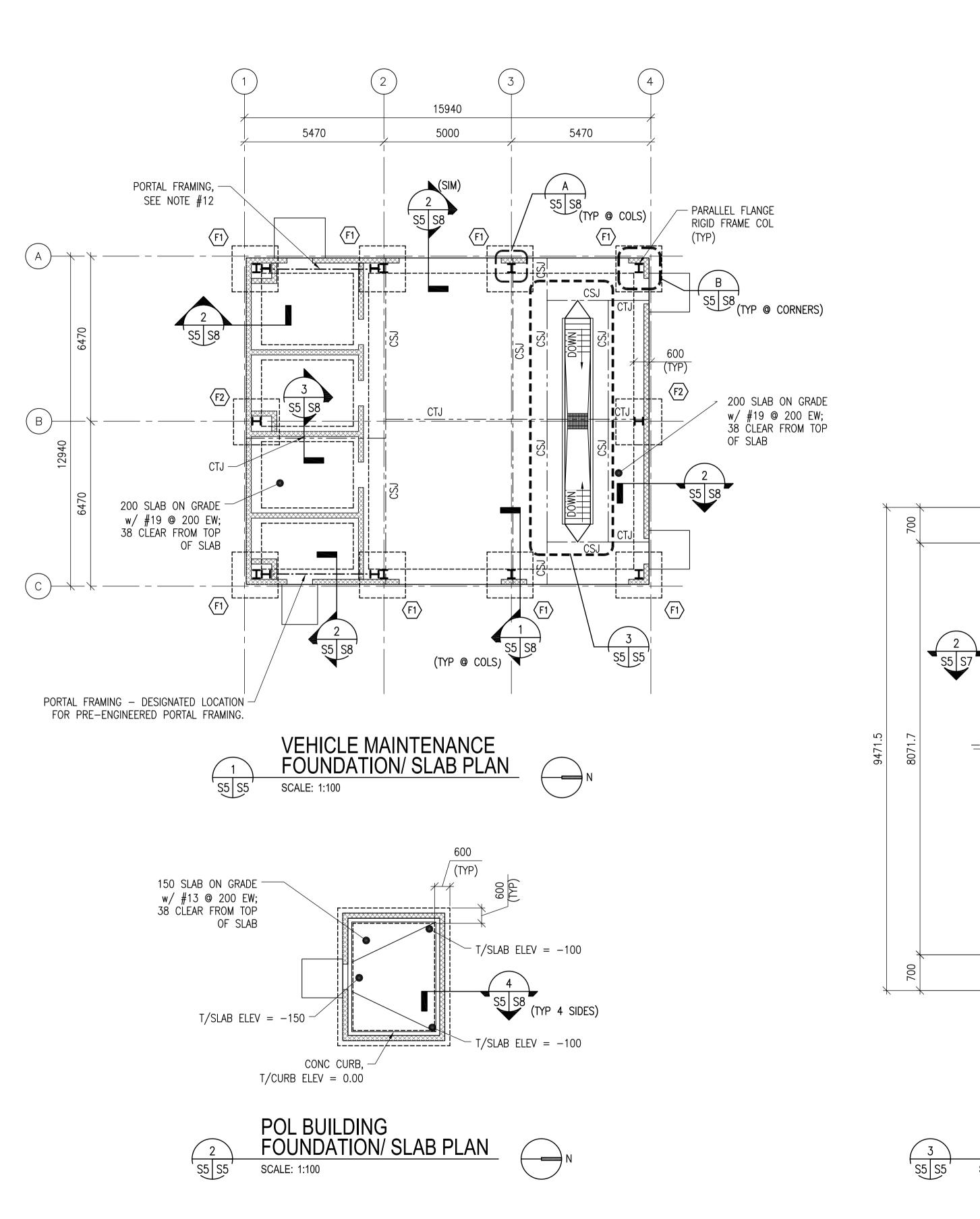


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MJJ	60-20-60
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RCG	BAKER
CHK BY:	FILE NO.:
CWW	ANPSDS-004XXX

AFGHAN NATIONAL POLICE STANDARD DESIGN VEHICLE MAINTENANCE & POL BUILDING

SHEET REFERENCE NUMBER:



NOTES

1. FINISH FIRST FLOOR ELEVATION SHALL BE (DATUM 0.0) ALL PLUS OR MINUS DIMENSIONS INDICATED ON PLAN OR REFERRED TO IN NOTES RELATE TO FINISH FIRST FLOOR ELEVATION.

2. TOP OF FOOTINGS SHALL BE -950 UNLESS OTHERWISE INDICATED.

3. UNLESS OTHERWISE INDICATED, FLOORS SHALL BE 200 THICK (UON)
CONCRETE SLAB-ON-GRADE W/ #19 REBAR @ 200 OC E.W. (38 CLR.
TOP) OVER 100 COMPACTED POROUS FILL (#57 STONE)

4. SPREAD FOOTINGS INDICATED THUS XXXX ON PLAN. REFER TO SPREAD FOOTING SCHEDULE ON SHEET S3.

5. REFER TO SHEETS S1 TO S3 FOR STRUCTURAL NOTES, BASIS OF DESIGN, SYMBOLS AND ABBREVIATIONS.

6. CTJ & CJ INDICATES SLAB CONTROL OR CONSTRUCTION JOINTS. RESPECTIVELY, REFER TO SHEET S10 FOR SECTIONS & DETAILS.

REFER TO ARCHITECTURAL SHEETS FOR MASONRY PARTITION TYPES.
 ALL CMU TO BE FULLY GROUTED UNLESS OTHERWISE NOTED. SEE CMU WALL REINFORCING SCHEDULE ON SHEET S4.

9. SEE MECHANICAL AND ELECTRICAL SHEETS FOR CONCRETE PAD LOCATIONS, SIZES, AND THICKNESS NOT SHOWN. SEE SHEET S11 FOR DETAILS.

10. PRIOR TO CONSTRUCTION OF FOUNDATIONS, THE CONTRACTOR SHALL COORDINATE THE LOCATIONS OF ALL FOOTINGS, PIERS, AND TURN DOWN SLAB EDGES WITH THE PRE-ENGINEERED BUILDING DRAWINGS AND REVISE AS NECESSARY.

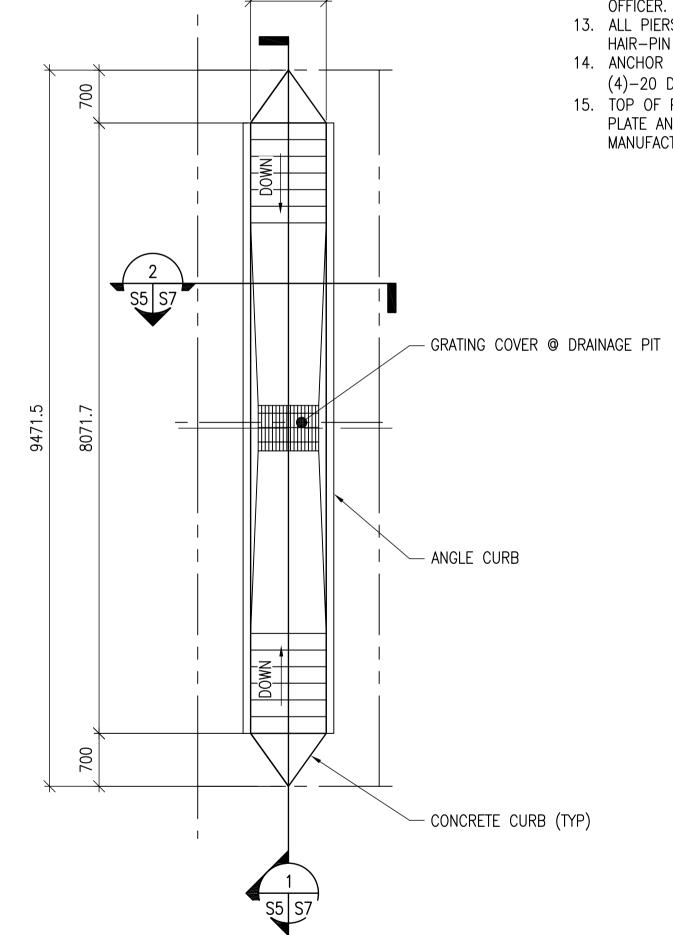
11. PRE-ENGINEERED COLUMN BASES SHALL BE DESIGNED AS PINNED ONLY.

12. LOCATIONS OF PORTAL FRAMES HAVE BEEN SHOWN IN PLAN AND SHALL NOT BE MODIFIED UNLESS APPROVED BY THE CONTRACTING OFFICER.

13. ALL PIERS FOR PRE-ENGINEERED BUILDING COLUMNS SHALL HAVE HAIR-PIN TIES AS INDICATED IN THE DETAILS.

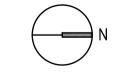
14. ANCHOR BOLTS FOR PRE-ENGINEERED BUILDING COLUMNS SHALL BE (4)-20 DIA A36M ANCHOR BOLTS WITH 300 EMBED MIN.

15. TOP OF PIER ELEVATION SET AT -200. COORDINATE BOTTOM/BASE PLATE AND GROUT REQUIREMENTS WITH PRE-ENGINEERED BUILDING MANUFACTURER.



1000

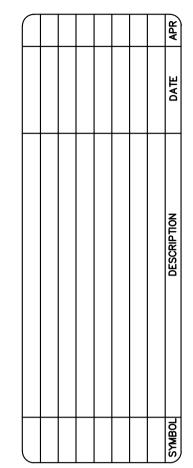




US Army Corps of Engineers Afghanistan

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	Hickory Dolor is las	Michael Buker VI., IIIC A unit of Michael Baker Corporation	Airside Business Park 100 Airside Drive	Moon Township PA 15108	www.mbakercorp.com	

AFGHAN NATIONAL POLICE
STANDARD DESIGN
VEHICLE MAINTENANCE & POL BUILDING
FOUNDATION PLAN

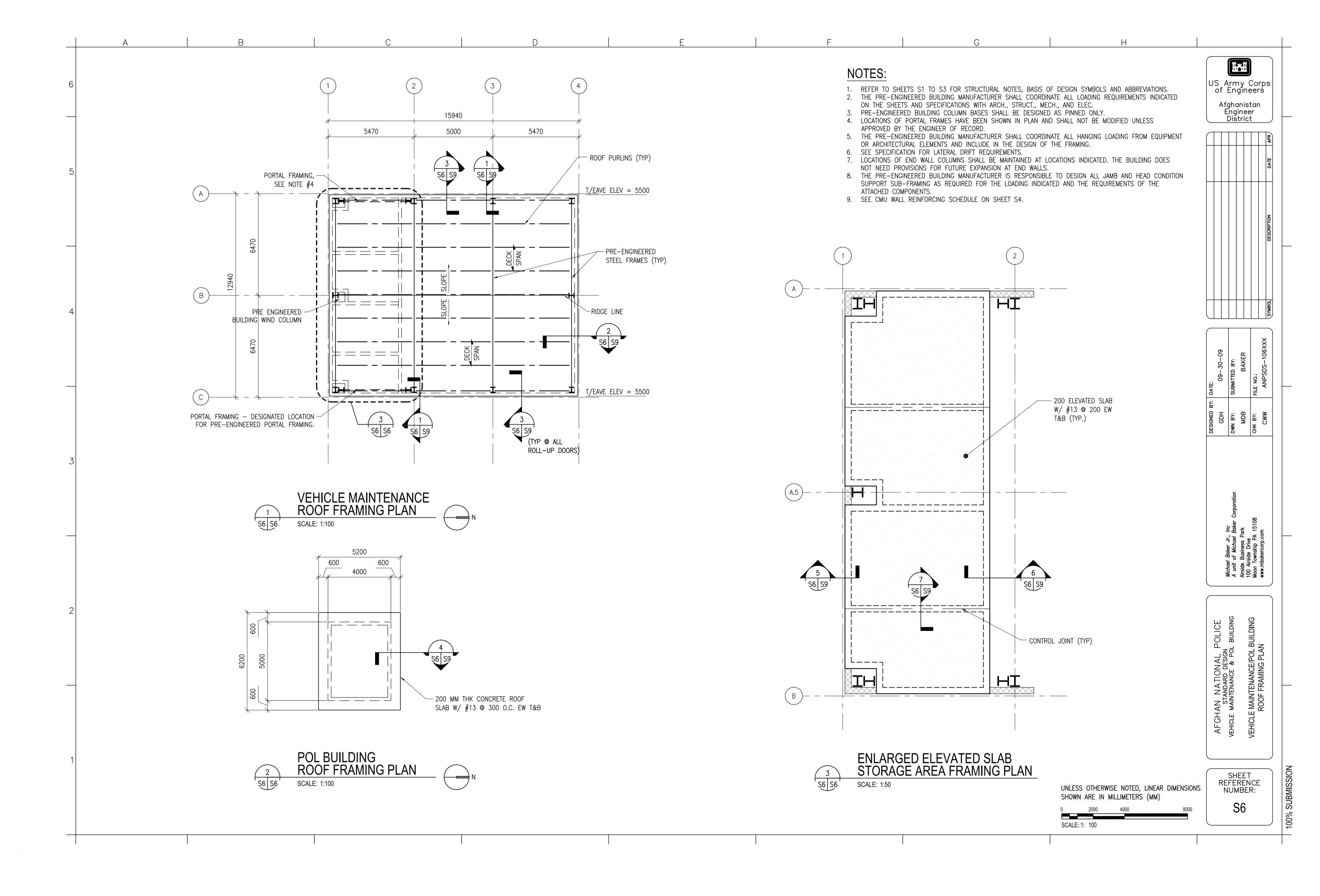
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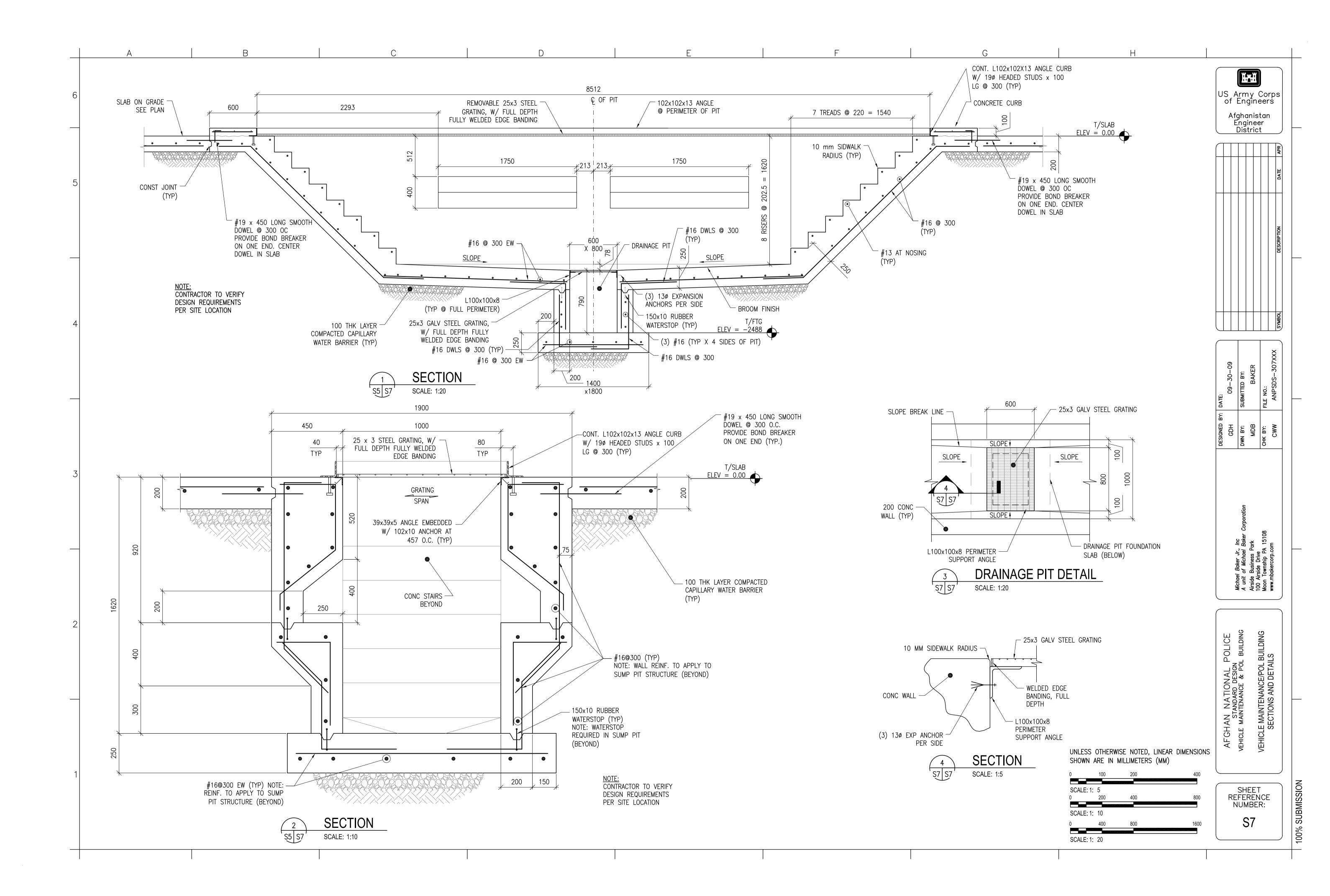
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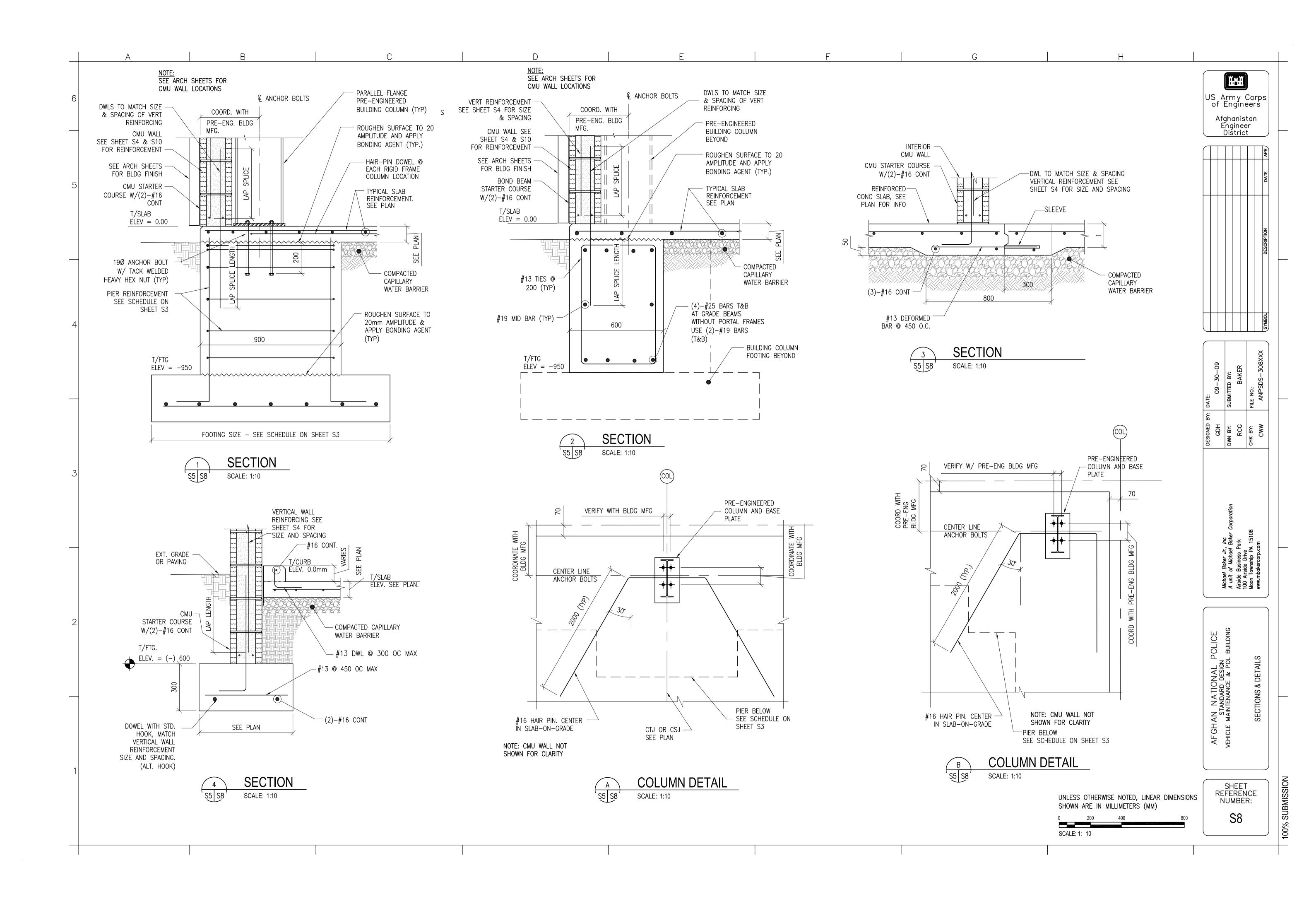
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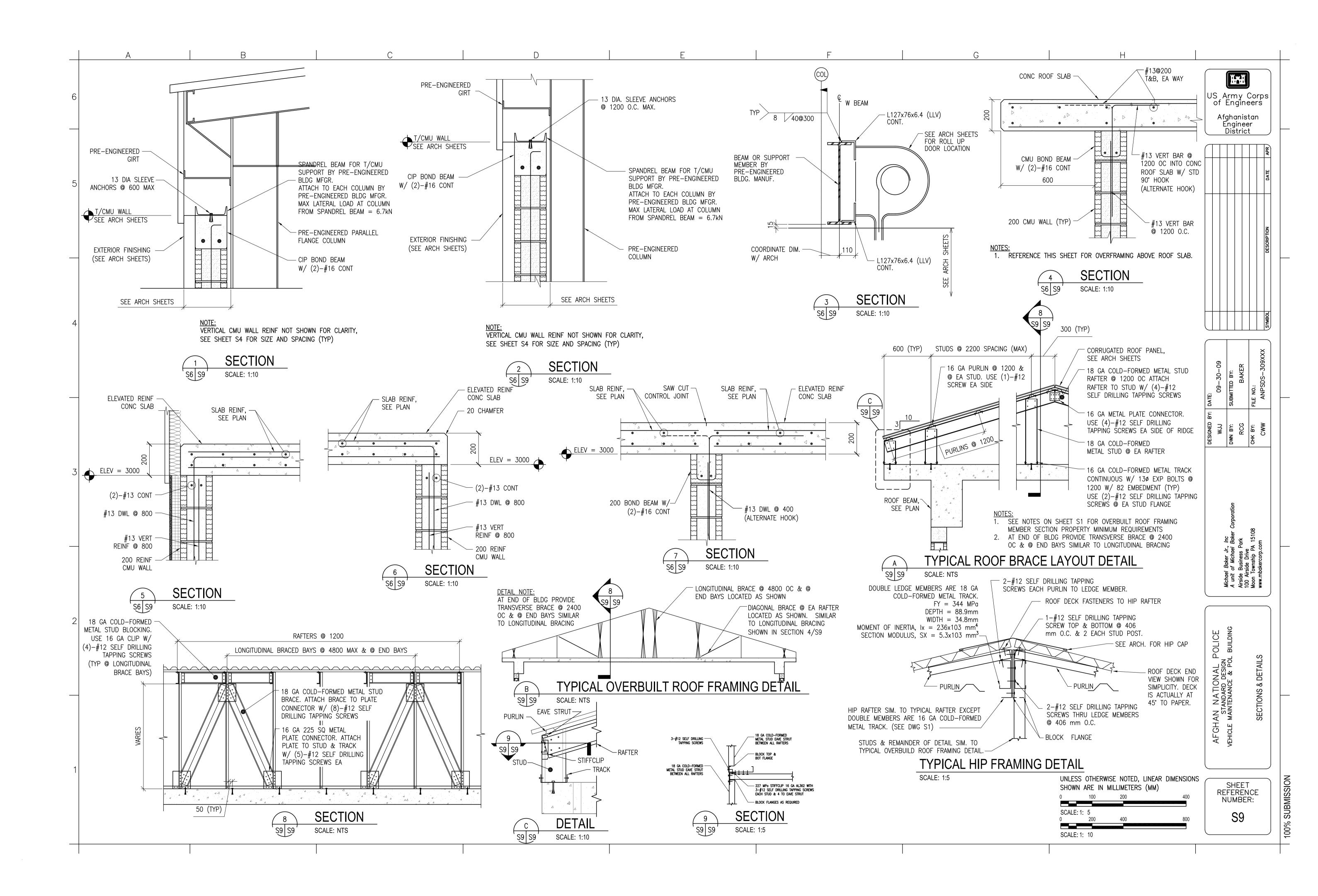
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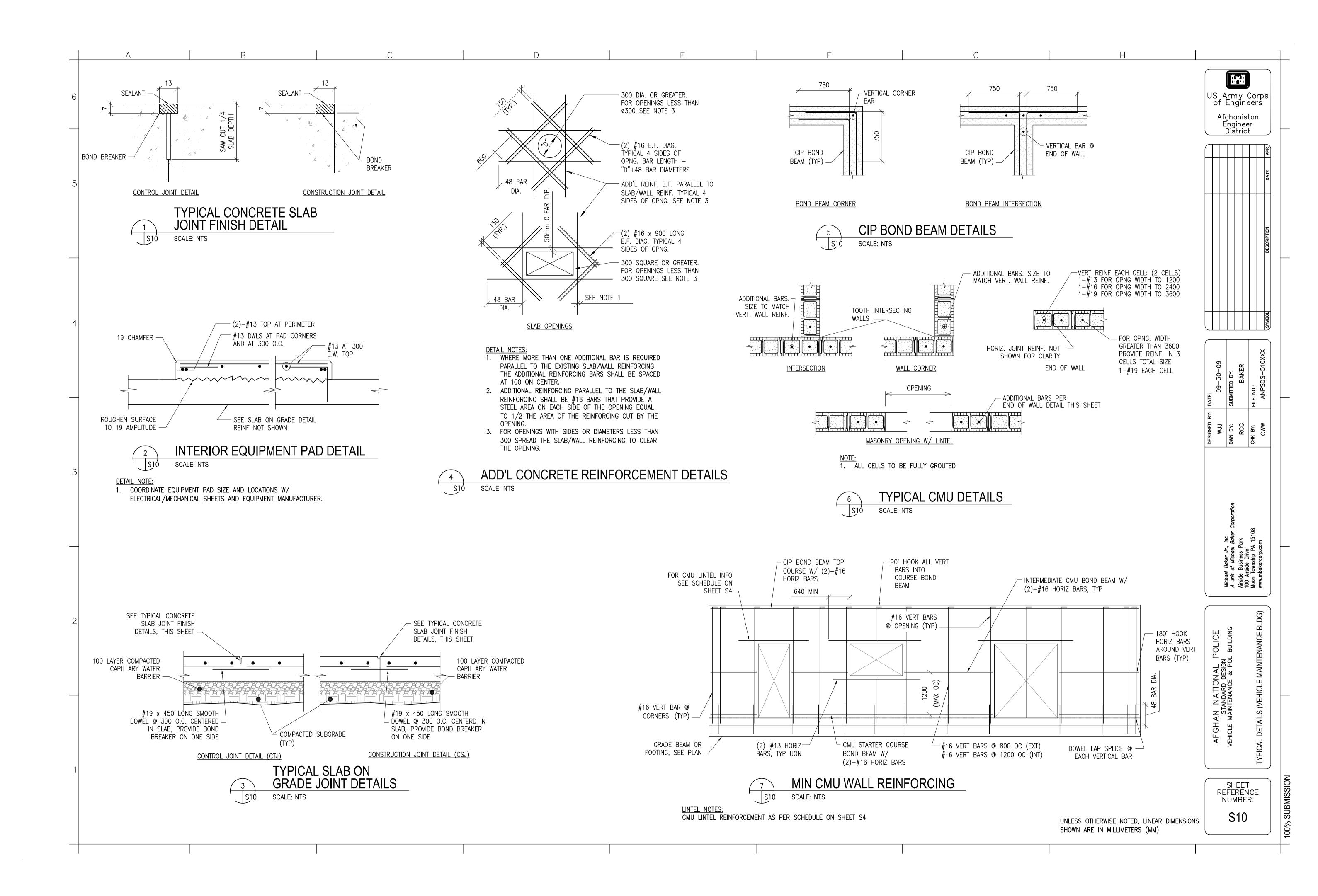
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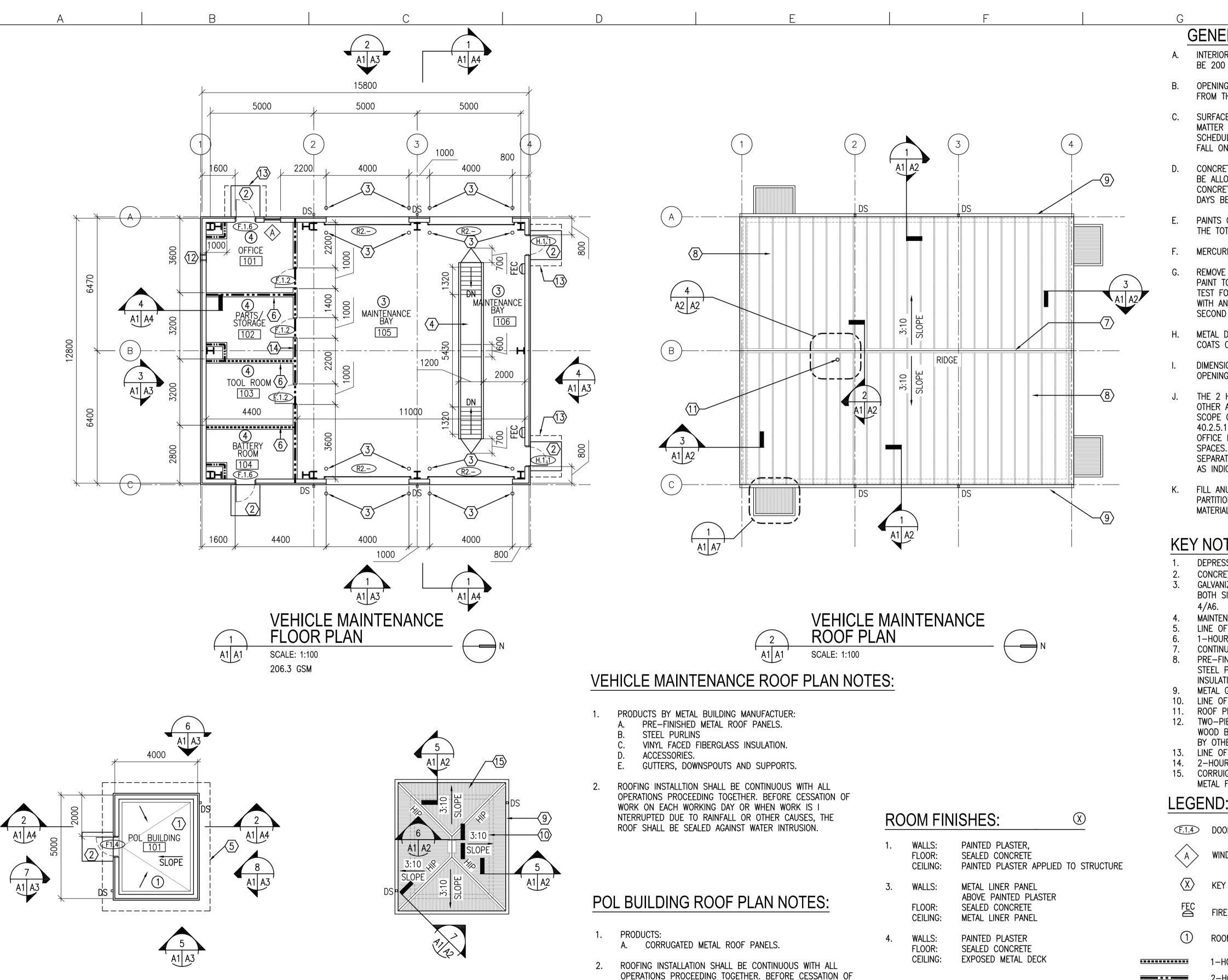












POL BUILDING

ROOF PLAN

SCALE: 1:100

POL BUILDING

FLOOR PLAN

SCALE: 1:100 21.5 GSM

A1 A1

WORK ON EACH WORKING DAY OR WHEN WORK IS

ROOF SHALL BE SEALED AGAINST WATER INTRUSION.

INTERRUPTED DUE TO RAINFALL OR OTHER CAUSES. THE

GENERAL NOTES:

- A. INTERIOR PARTITIONS ARE 3000 MM HIGH. INTERIOR PARTITIONS SHALL BE 200 MM CMU UNLESS OTHERWISE NOTED.
- B. OPENINGS FOR DOORS SHALL BE LOCATED A MINIMUM OF 200 MM FROM THE ADJACENT WALL.
- C. SURFACES TO BE PAINTED SHALL BE CLEAN AND FREE OF FOREIGN MATTER BEFORE APPLICATION OF PAINT. CLEANING SHALL BE CONTAMINANTS WILL NOT SCHEDULED SO THAT DUST AND OTHER FALL ON WET, NEWLY PAINTED SURFACES.
- CONCRETE AND INTERIOR MASONRY SURFACES GROUTED SOLID SHALL BE ALLOWED TO DRY AT LEAST 30 DAYS BEFORE PAINTING EXCEPT CONCRETE SLAB ON GRADE WHICH SHALL BE ALLOWED TO CURE 90 DAYS BEFORE PAINTING.
- E. PAINTS CONTAINING LEAD IN EXCESS OF 0.06 PERCENT BY WEIGHT OF THE TOTAL NONVOLATILE CONTENT SHALL NOT BE USED.
- MERCURIAL FUNGICIDES SHALL NOT BE USED IN OIL-BASE PAINT.
- REMOVE LOOSE DIRT AND CLEAN SURFACES BEFORE PAINTING. APPLY PAINT TO INTERIOR STRUCTURAL RIGID FRAMINGS AND CEILINGS AND TEST FOR ADHESION. PRIMER COAT FOR MASONRY. INITIAL FIRST COAT WITH AN ACRYLIC LATEX PAINT FOR EXTERIOR SURFACES AND A SECOND COAT WITH A WATER REPELLENT ACRYLIC LATEX PAINT.
- METAL DOORS AND FRAMES SHALL RECEIVE A PRIMER COAT PLUS TWO COATS OF PAINT.
- DIMENSIONS ARE TO STRUCTURAL COLUMN GRID, EDGE OF WINDOW OPENINGS, AND TO HINGE SIDE OF DOOR OPENINGS.
- THE 2 HOUR SEPARATION BETWEEN THE MAINTENANCE BAY AND ALL OTHER ANCILLARY INTERIOR SPACES IS PROVIDED AS DIRECTED IN THE SCOPE OF WORK TO COMPLY WITH NFPA 101, 40.2.4.1.2 AND 40.2.5.1. IN ACCORDANCE WITH NFPA 101, TABLE 6.1.14.4.1, THE OFFICE MUST HAVE A 2 HOUR SEPARATION FROM ALL OTHER INTERIOR SPACES. THE BATTERY ROOM MUST HAVE A MINIMUM 1 HOUR SEPARATION FROM ALL OTHER INTERIOR SPACES. PROVIDE SEPARATIO AS INDICATED.
- FILL ANULAR SPACE AT ANY AND ALL PENETRATIONS IN FIRE RATED PARTITIONS AND CEILINGS WITH APPROPRIATE FIRE STOPPING MATERIALS.

KEY NOTES:

- DEPRESS SLAB 100 MM TO 150 MM RE: 9,10/A5 CONCRETE STOOP - RE: DETAIL 1/A6.
- GALVANIZED STEEL BOLLARD FILLED WITH CONCRETE ON BOTH SIDE OF ROLL UP DOOR, TYPICAL. SEE DETAIL
- MAINTENANCE PIT. SEE SECTION 2/A6 AND 3/A6.
- LINE OF ROOF OVERHANG ABOVE.
- 1-HOUR RATED PARTITION.
- CONTINUOUS RIDGE FLASHING. PRE-FINISHED METAL ROOF PANELS OVER STEEL PURLINS WITH VINYL FACED FIBERGLASS
- INSULATION BY METAL BUILDING MANUFACTURER. METAL GUTTERS AND DOWNSPOUTS WITH SPLASH BLOCK.
- LINE OF BUILDING WALL, BELOW
- ROOF PENETRATION RE: PLUMBING DRAWINGS
- 12. TWO-PIECE WALL THIMBLE AND TRIM PLATE FOR OPTIONAL WOOD BURNING STOVE CHIMNEY PIPE. STOVE AND PIPE
- BY OTHERS. 13. LINE OF CANOPY ABOVE-SEE SHEET A7.
- 14. 2-HOUR RATED PARTITION.
- CORRUIGATED METAL ROOF PANELS N COLD-FORMED

METAL FRAMING.

DOOR TYPE, SEE SHEET A5

WINDOW TYPE, SEE SHEET A5

KEY NOTE

FIRE EXTINGUISHER CABINET

ROOM FINISH TYPE DESIGNATION

1-HOUR RATED PARTITION 2-HOUR RATED PARTITION

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)

SCALE: 1: 100

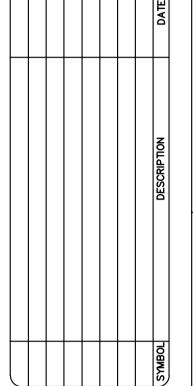
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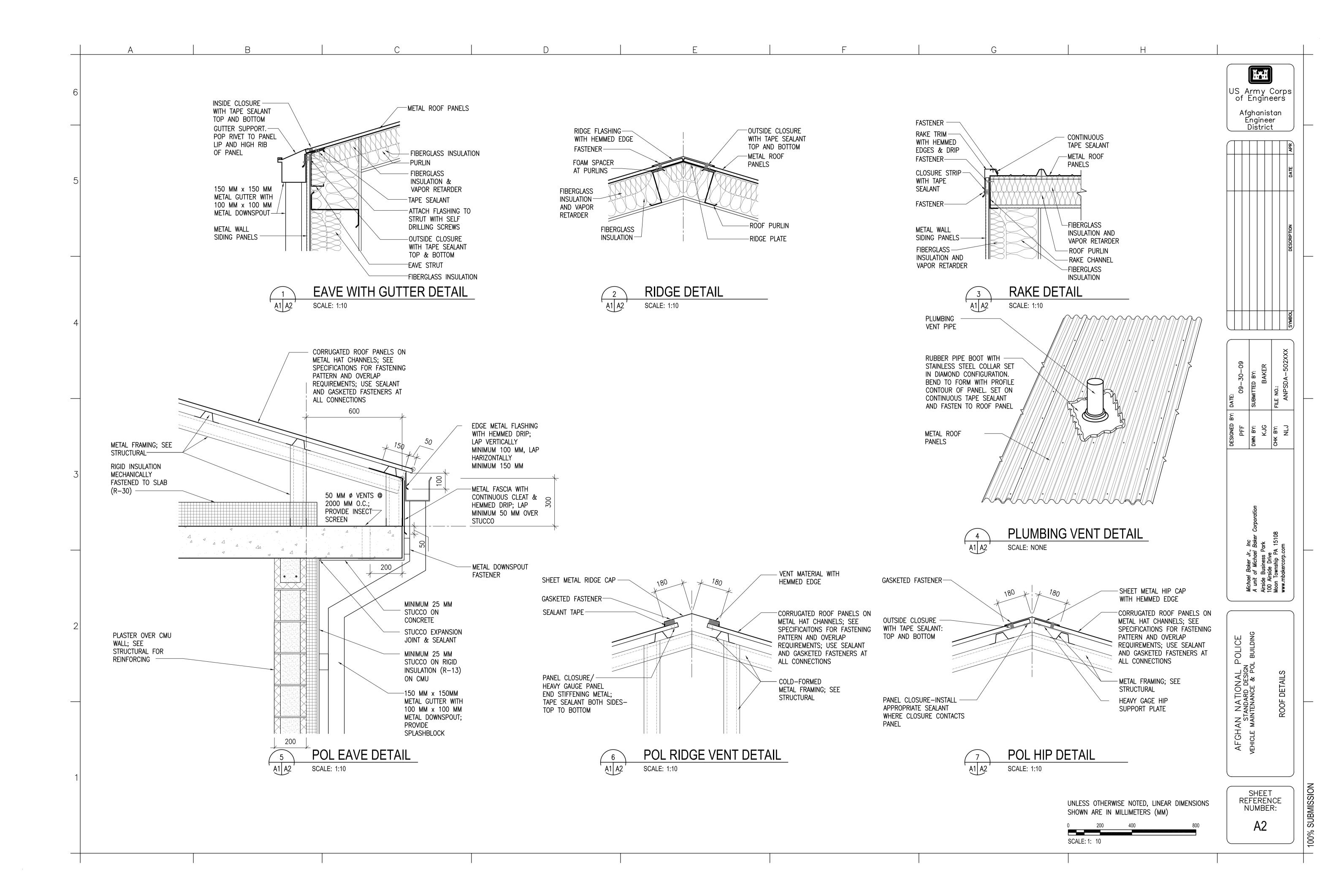


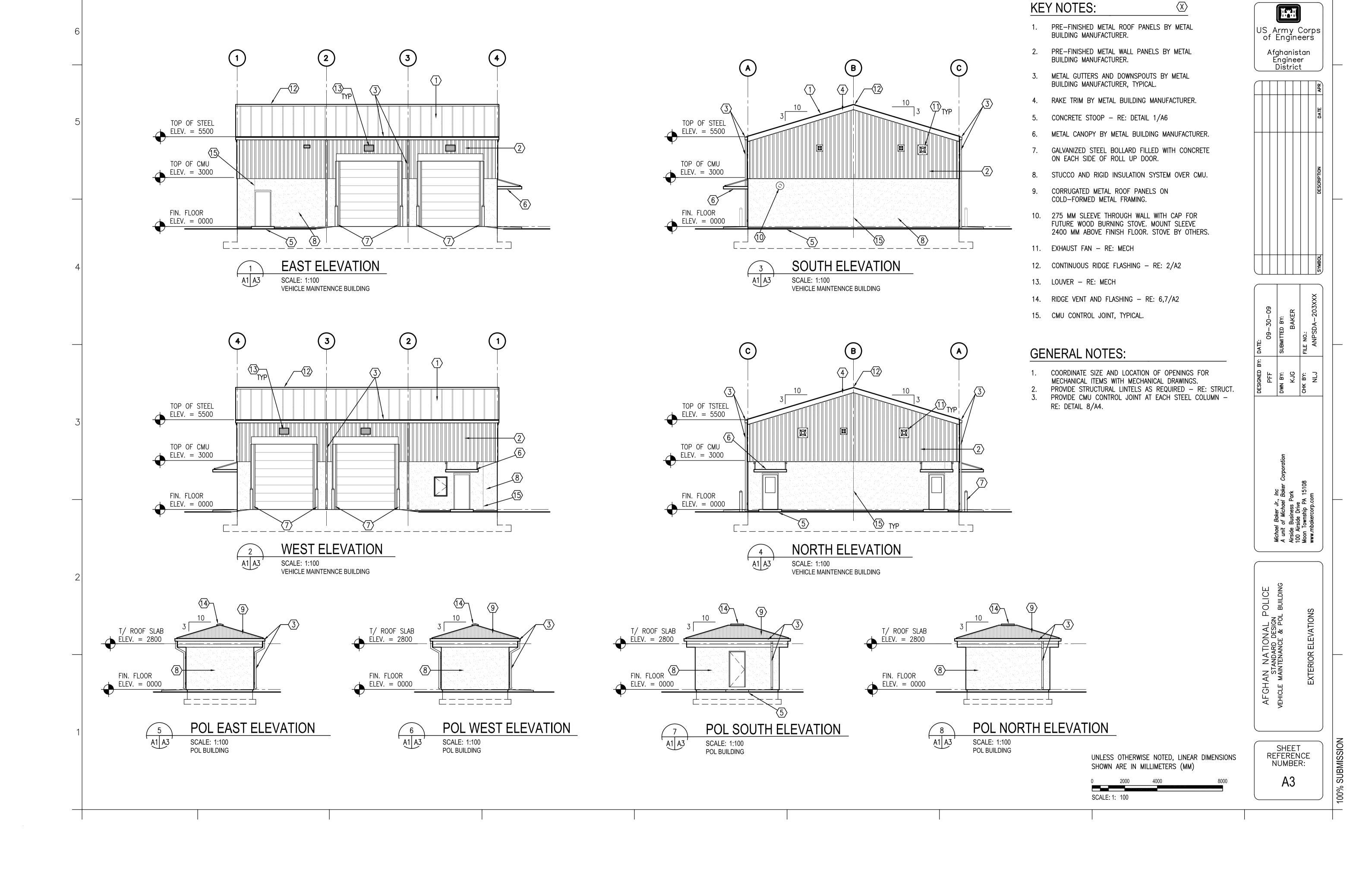
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		Wichael Baker Ir Inc	A unit of Michael Baker Corporation	Airside Business Park 100 Airside Drive	Moon Township PA 15108	www.mbakercorp.com
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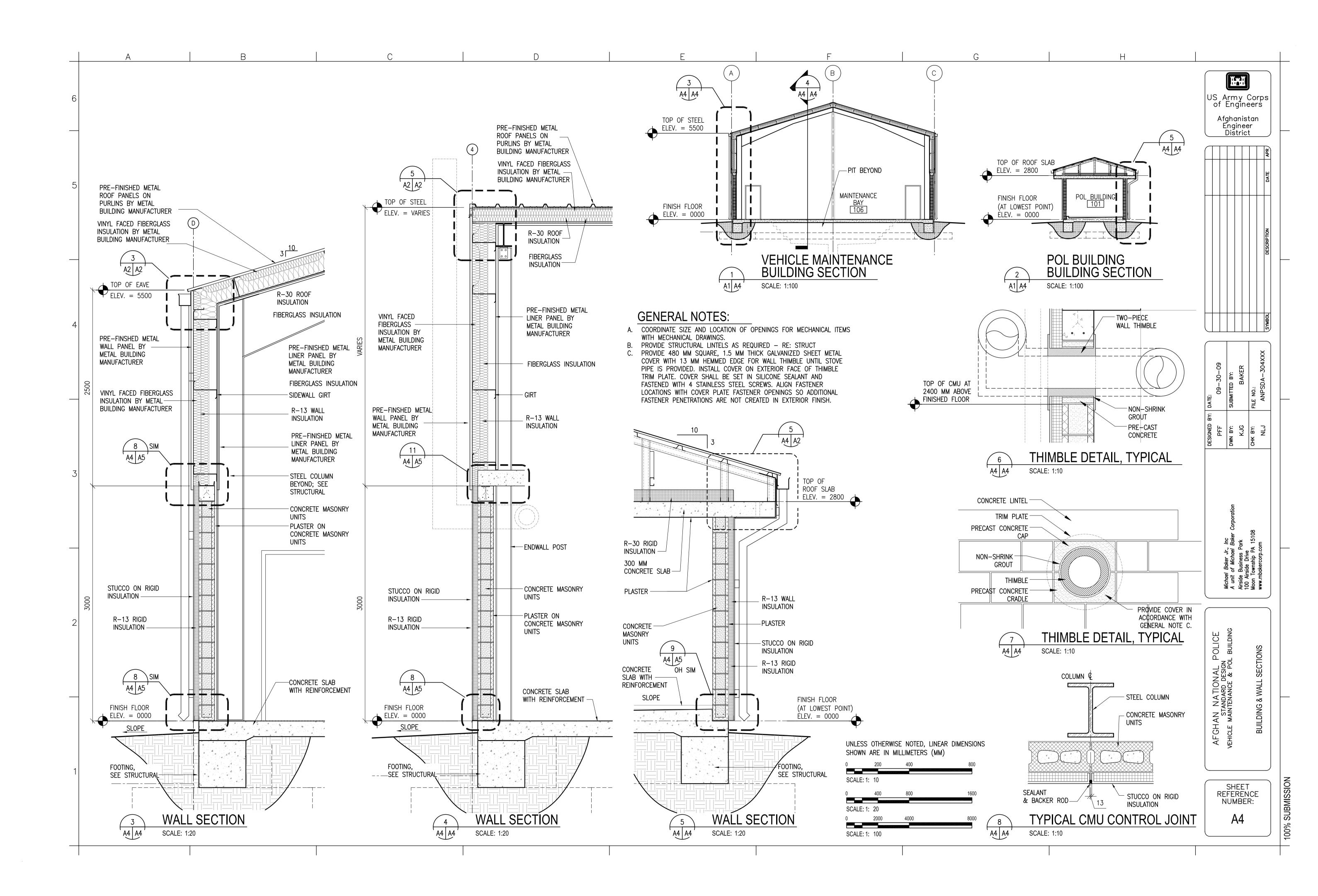
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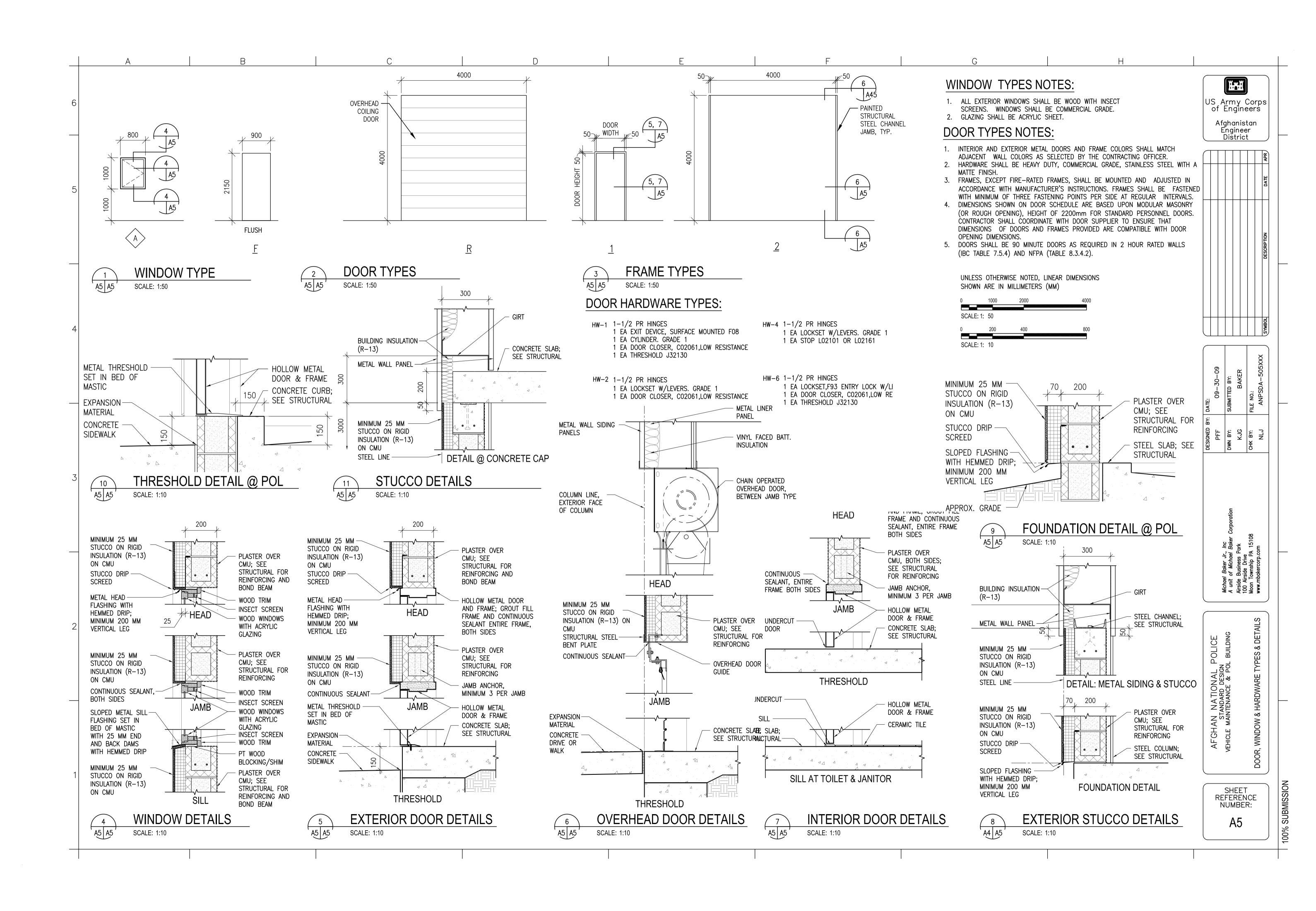
AFGHAN NATIONAL POLICE STANDARD DESIGN FLOOR AND ROOF

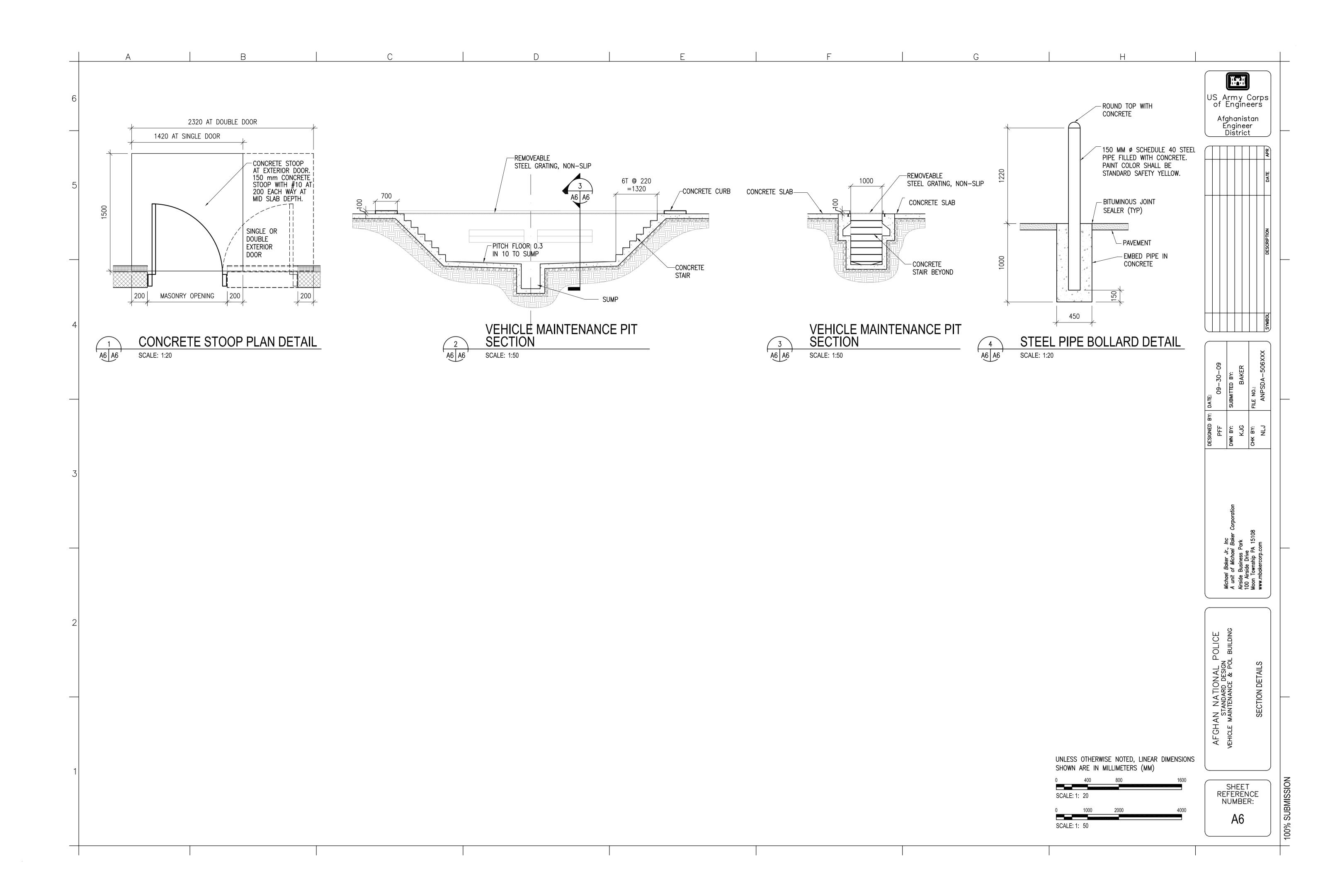
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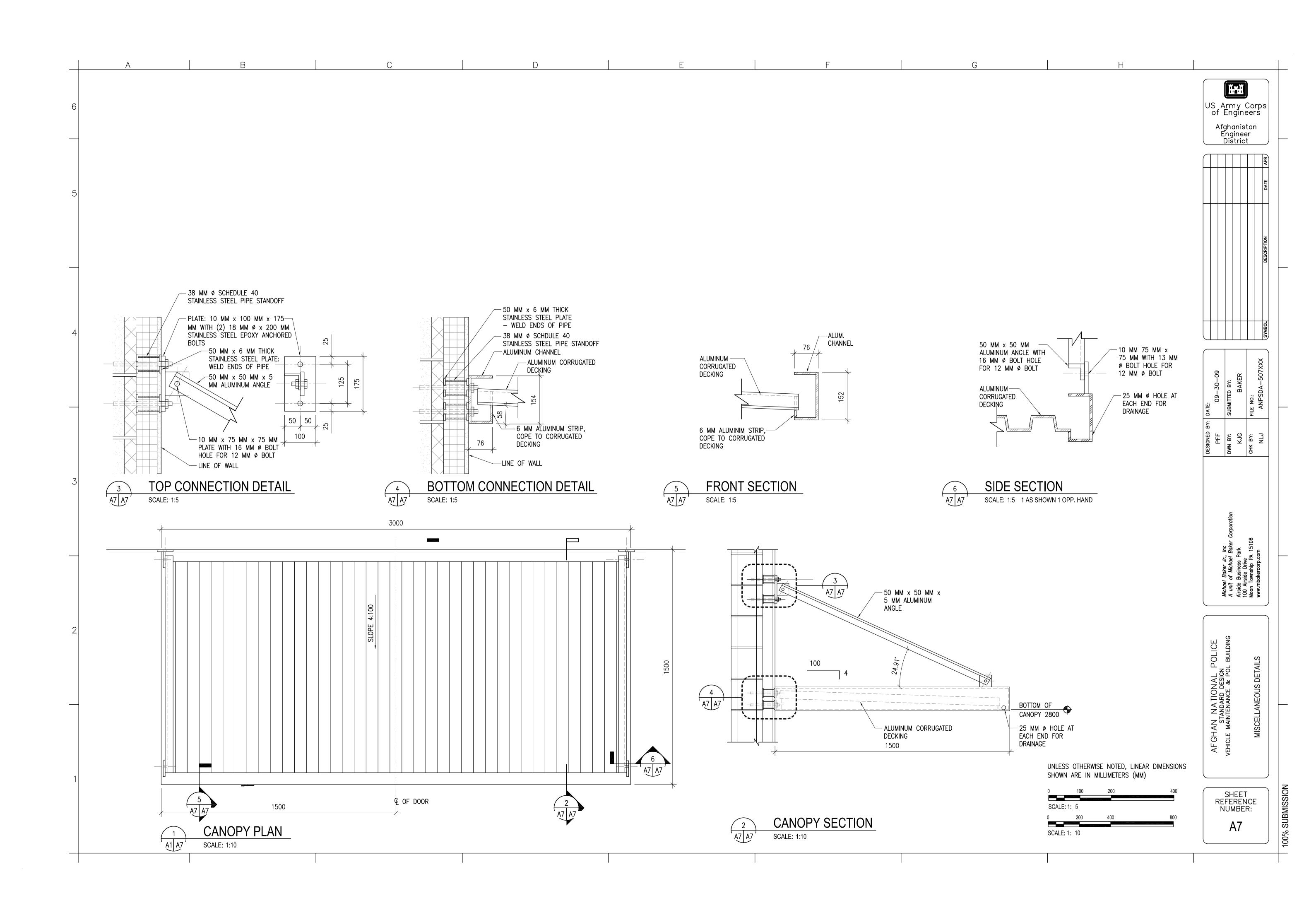


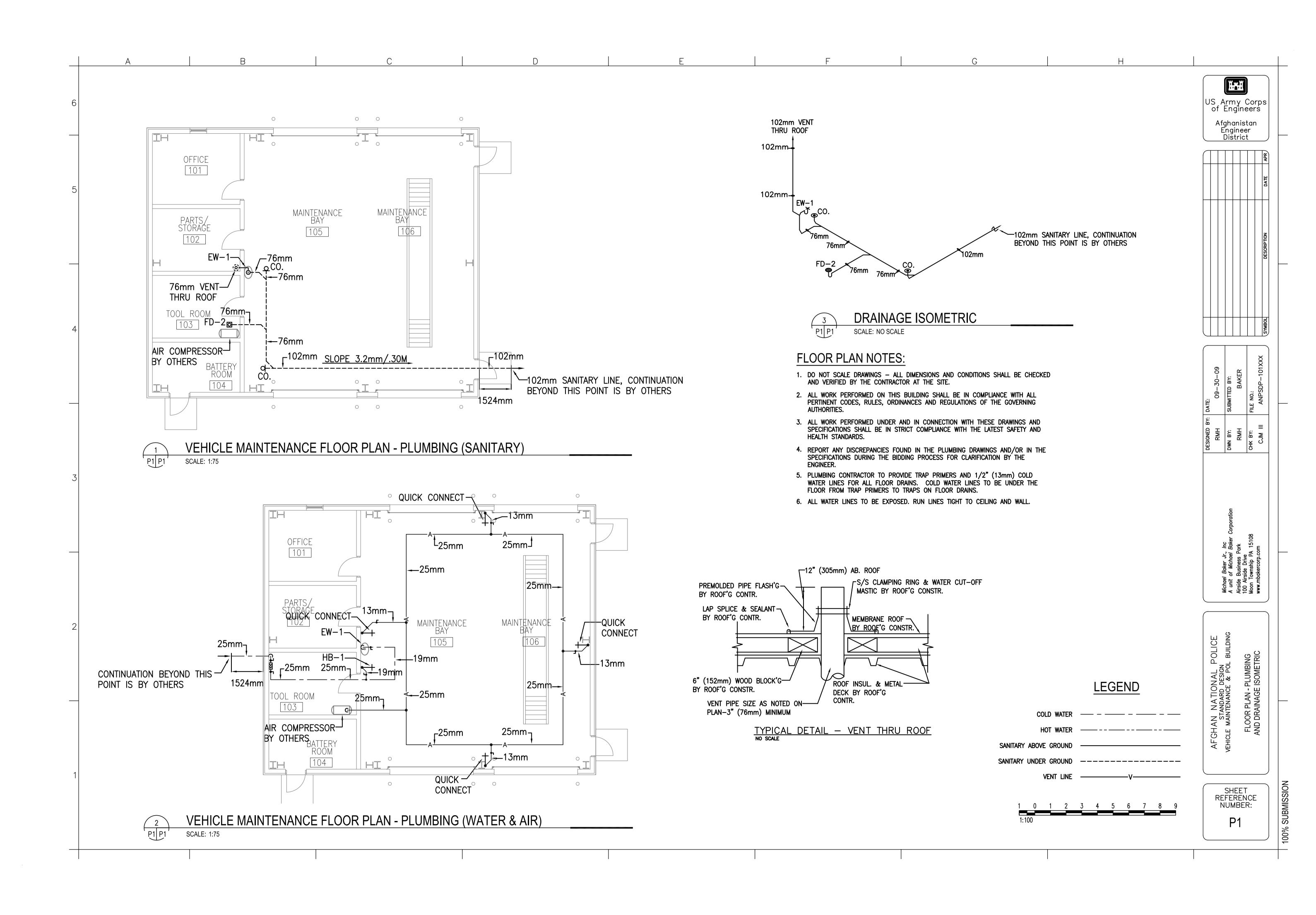






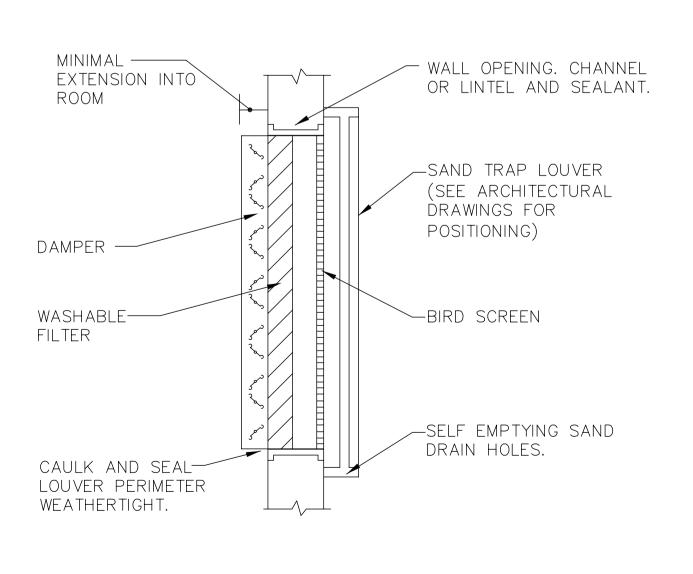




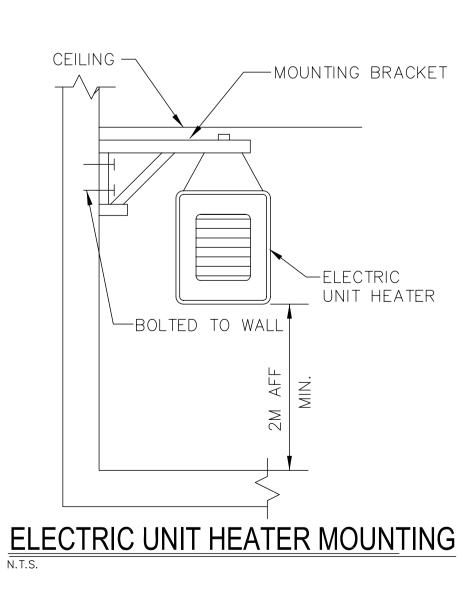


FLOOR HVAC PLAN

SCALE: 1:100



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GENERAL NOTES:

- 1. DO NOT SCALE DRAWINGS ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
- 2. ALL WORK PERFORMED ON THIS BUILDING SHALL BE IN COMPLIANCE WITH ALL PERTINENT CODES, RULES, ORDINANCES AND REGULATIONS OF THE GOVERNING AUTHORITIES.
- ALL WORK PERFORMED UNDER AND IN CONNECTION WITH THESE DRAWINGS AND SPECIFICATIONS SHALL BE IN STRICT COMPLIANCE WITH THE LATEST SAFETY AND HEALTH STANDARDS.

BATTERY ROOM FAN OPERATION:

THE BATTERY ROOM WILL BE PROVIDED WITH A DEDICATED EXHAUST FAN INTERLOCKED WITH A HYDROGEN SENSOR TO PROVE FAN IS OPERATING. AN ALARM SHALL SOUND WITH INCREASED HYDROGEN LEVELS AND THE CHARGERS SHALL BE SHUT DOWN. THE FAN SHALL BE INTERLOCKED WITH THE BATTERY CHARGER SO THAT THE CHARGER WILL NOT OPERATE WITHOUT VENTILATION. A WALL MOUNTED FAN SWITCH SHALL BE PROVIDED TO CONTROL THE FAN. FAN MOTORS WILL BE INSTALLED OUTSIDE THE BATTERY ROOM. THE BLOWER WILL HAVE A NON-SPARKING FAN AND THE MOTOR SHALL BE OUT OF THE AIR STREAM.

FAN	SCHE	DULE	•				
NO.	TYPE	FAN CMS	DRIVE	HP	SP mmH20	ELECT. CHAR.	SWITCH
EF-1	WALL	0.500	DIRECT	1/4	20	220/1/50	@ WALL
EF-2	WALL	0.500	DIRECT	1/4	20	220/1/50	@ WALL
EF-3	WALL	0.100	DIRECT	1/30	25	220/1/50	@ WALL
EF-4	WALL	0.100	DIRECT	1/30	13	220/1/50	@ PANEL
EF-5	WALL	0.050	DIRECT	FRACT	13	220/1/50	@ WALL
EF-6	WALL	0.050	DIRECT	FRACT	13	220/1/50	@ WALL

ELE	CTRIC	UN	IT H	EATER SC	HEDULE
NO.	CMS	KW	F.A.T. ℃	ELECT. CHAR.	MOUNTING
EH-2	.200	2.6	38	370/1/50	WALL HUNG
EH-4	.200	4	38	370/1/50	WALL HUNG
EH-5	.200	5	38	370/1/50	WALL HUNG

- ALL HEATERS SHALL BE CORROSION RESISTANT
- UNIT HEATERS SHALL HAVE TAMPER PROOF INTEGRAL STATS.
- UNIT HEATERS SHALL BE MOUNTED AS HIGH AS POSSIBLE.

o (CEILIN	G FA	N	
NO.	BLADE		VOLTAGE	SWITCH
	mm	Z		
F-1	1320	52	220/1/50	@ WALL

1. FINAL ELECTRICAL CONNECTIONS BY EC.

- FAN HOUSING WITH MOTOR

─ WALL GRILLE

DAMPER.

BLADE ASSEMBLY.

-SEAL WEATHER TIGHT.

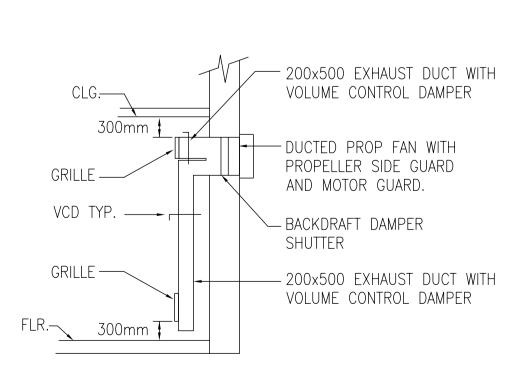
- WALL CAP WITH SPRING OPERATED BACKDRAFT

SYMBOLS:

- KEY NOTE
- (.050) AIR VOLUME IN CUBIC METERS PER SECOND (CMS)
- VOLUME DAMPER
- FIRE DAMPER SENSOR

NUMBERED NOTE:

- (1) 600X400 (24X16) LOW LEAKAGE GRAVITY WALL LOUVER FOR INTAKE. PROVIDE WEATHER PROOF LOUVER W/ 50mm (2") WASH DOWN FILTER AND SAND TRAP.
- (2) 400X200 (16X8) LOW LEAKAGE GRAVITY WALL LOUVER FOR INTAKE. PROVIDE WEATHER PROOF LOUVER W/ 50mm (2") WASH DOWN FILTER AND SAND TRAP.
- (3) WALL EXHAUST FAN MOUNTED AS HIGH AS POSSIBLE, EXTEND DUCT INTO BATTERY ROOM WITH END OPEN. FAN MOTOR SHALL BE OUT OF THE AIR STREAM. FAN TO BE EXPLOSION PROOF.
- 4 WALL EXHAUST FAN MOUNTED AS HIGH AS POSSIBLE, EXTEND DUCT DOWN TO 150mm ABOVE FLOOR. PROVIDE 2 300X300 (12X12) GRILLES ONE LOCATED 300 (12") AFF AND THE OTHER AT 300 (12") BELOW CEILING. SEE DETAIL THIS SHEET.
- $\langle 5 \rangle$ 300X300 (12X12) WALL EXHAUST GRILLE LOCATED 300mm (12") AFF OF PIT.
- 6 EXTEND DUCT UNDERGROUND OVER TO WALL AND UP TO EXHAUST FAN.
- (7) EXHAUST FAN WITH DUCT DOWN BELOW FLOOR TO PIT AS SHOWN.
- (8) COMBINATION NITROGEN DIOXIDE , CARBON MONOXIDE SENSOR INTERLOCKED WITH EF-1 & EF-2 TO TURN FANS ON WITH INCREASED LEVELS AS SPECIFIED.
- (9) HYDROGEN SENSOR INTERLOCKED W/ EF-4 MOUNTED AT CEILING.
- (10) 200X200 (8X8) TRANSFER GRILLE.



TYPICAL FAN HIGH LOW GRILLE DETAIL WALL MOUNTED EXHAUST FAN DETAIL

HAH

US Army Corps of Engineers

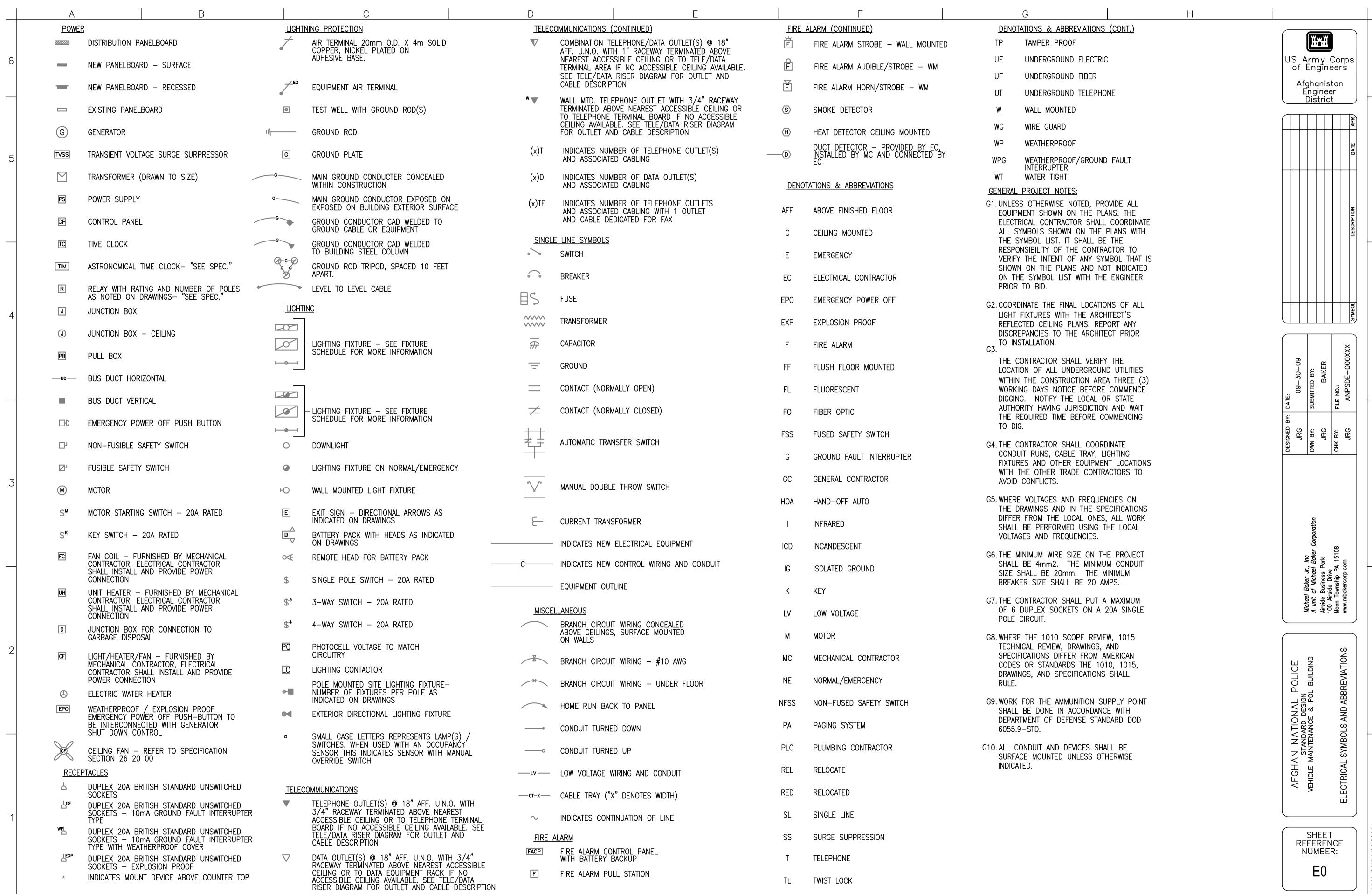
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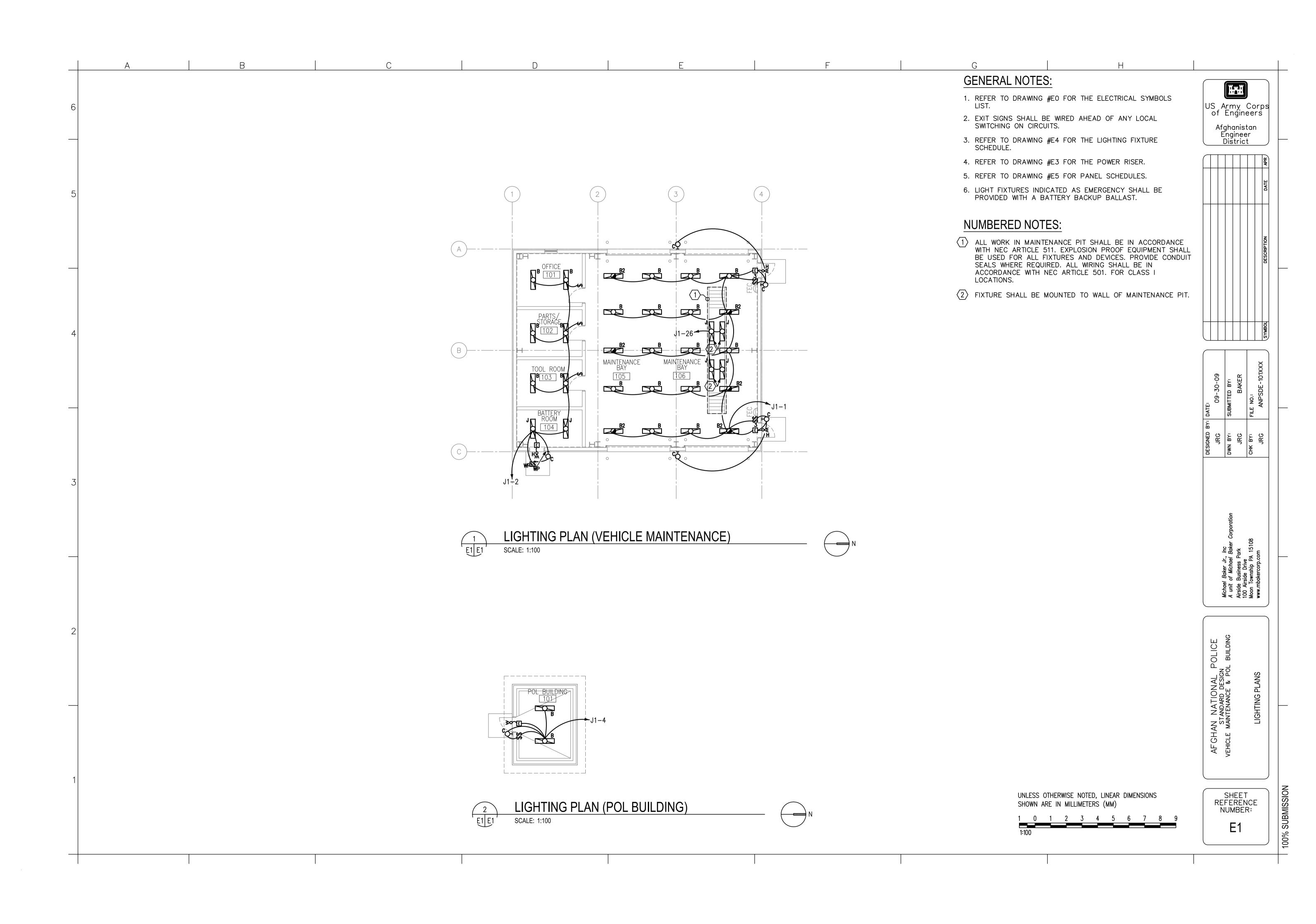
Engineer

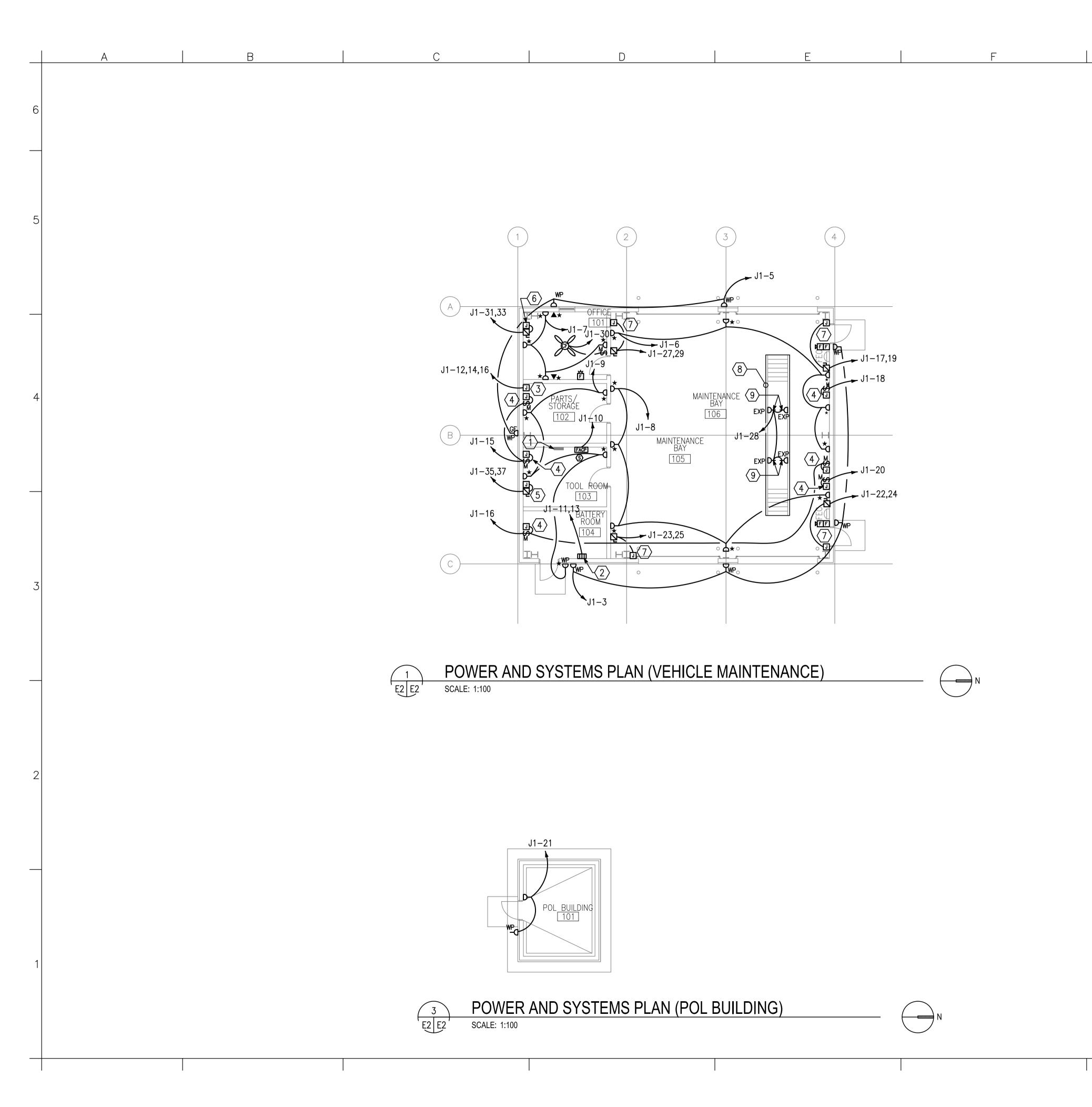
District

AFGHAN NATIONAL POLICE STANDARD DESIGN VEHICLE MAINTENANCE & POL BUILDING **HVAC FLOOR PLAN**

SHEET REFERENCE NUMBER: M1







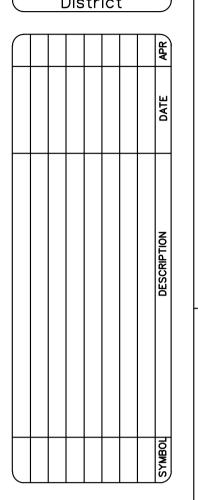
GENERAL NOTES:

- 1. REFER TO DRAWING #EO FOR THE ELECTRICAL SYMBOLS
- 2. REFER TO DRAWING #E3 FOR THE POWER RISER.
- 3. REFER TO DRAWING #E5 FOR PANEL SCHEDULES.
- 4. COORDINATE EXACT MOUNTING LOCATION OF DISCONNECTING MEANS FOR MECHANICAL AND PLUMBING EQUIPMENT IN THE FIELD.
- 5. FUSIBLE SAFETY SWITCHES THAT ARE NOT OTHERWISE IDENTIFIED SHALL BE 380V, 1P, 30A FUSED SAFETY SWITCHES WITH 20A FUSES.

NUMBERED NOTE:

- 1 PANEL J1.
- 2 BATTERY CHARGER
- 3 PROVIDE ELECTRICAL CONNECTION TO AIR COMPRESSOR (BY OTHERS). COORDINATE ELECTRICAL CONNECTION WITH MODEL PURCHASED PRIOR TO ROUGH IN OF ELECTRICAL EQUIPMENT.
- 4 PROVIDE POWER CONNECTION TO EXHAUST FANS. SEE DRAWINGS #M1 AND #E5 FOR MORE INFORMATION.
- 5 PROVIDE POWER CONNECTION TO ELECTRIC HEATER #2. SEE DRAWINGS #M1 AND #E5 FOR MORE INFORMATION.
- 6 PROVIDE POWER CONNECTION TO ELECTRIC HEATER #4. SEE DRAWINGS #M1 AND #E5 FOR MORE INFORMATION.
- 7 PROVIDE POWER CONNECTION TO ELECTRIC HEATER #5. SEE DRAWINGS #M1 AND #E5 FOR MORE INFORMATION.
- 8 ALL WORK DONE IN THE MAINTENANCE PIT SHALL BE IN ACCORDANCE WITH NEC ARTICLE 511. EXPLOSION PROOF EQUIPMENT SHALL BE USED FOR A FIXTURES AND DEVICES. PROVIDE CONDUIT SEALS WHERE REQUIRED. ALL WIRING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 501. FOR CLASS I LOCATIONS.
- PRECEPTACLE SHALL BE MOUNTED TO WALL OF MAINTENANCE PIT AT 1070mm ABOVE FINISHED FLOOR OF MAINTENANCE PIT.

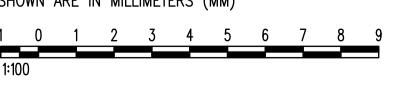




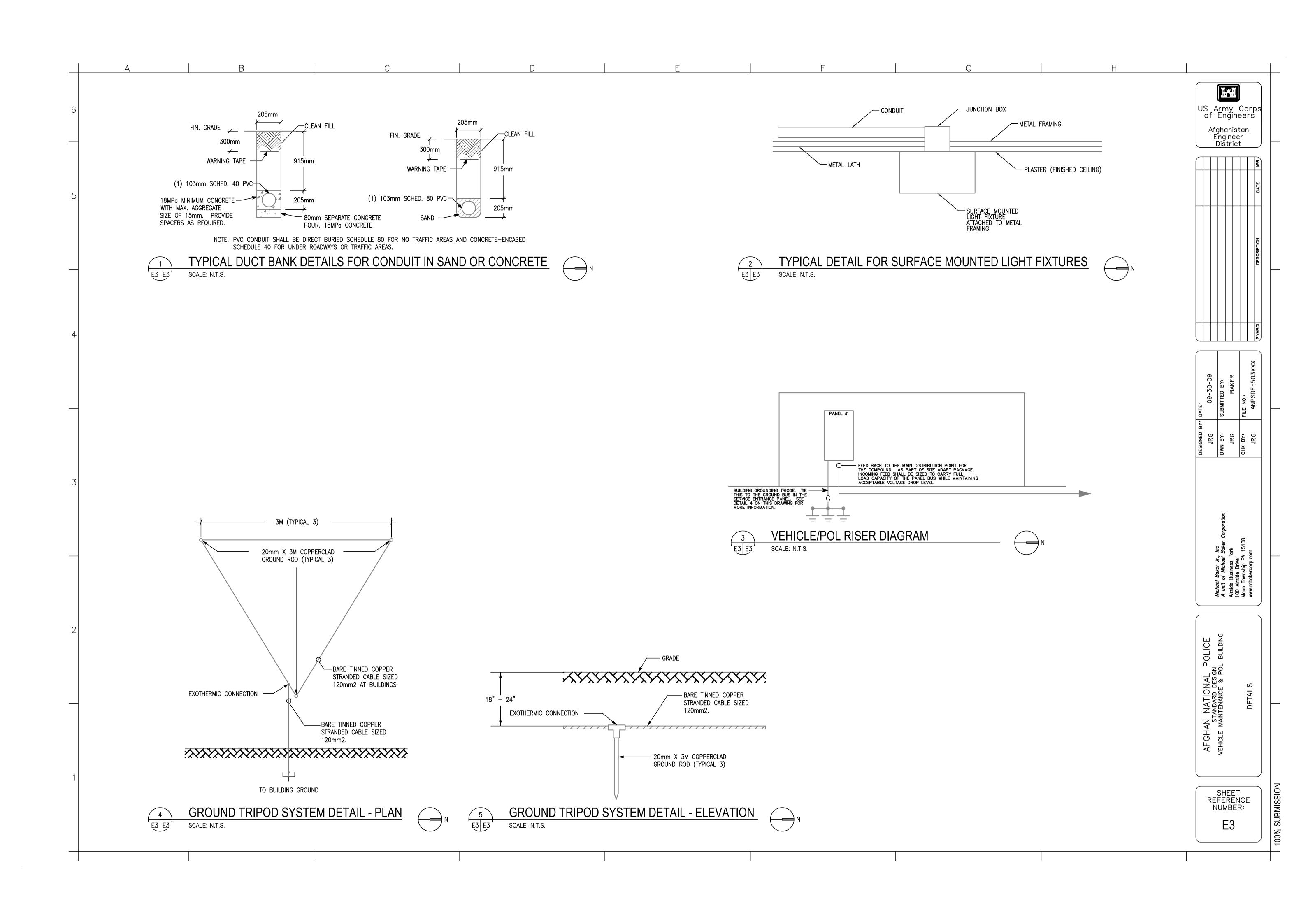
	DESIGNED BY: DATE:	DATE:
Wichnel Baker Ir Inc	JRG	09-30-09
A unit of Michael Baker Corporation	DWN BY:	SUBMITTED BY:
Airside Business Park 100 Airside Drive	JRG	BAKER
Moon Township PA 15108	CHK BY:	FILE NO.:
www.mbakercorp.com	JRG	ANPSDE-102XXX
		•

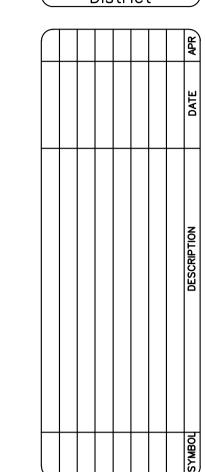
AFGHAN NATIONAL POLICE STANDARD DESIGN VEHICLE MAINTENANCE & POL BUILDING

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)



SHEET REFERENCE NUMBER: E2





DATE:	60-30-60	SUBMITTED BY:	BAKER	FILE NO.:	ANPSDE-604XXX
DESIGNED BY: DATE:	JRG	DWN BY:	JRG	CHK BY:	JRG
		Corporation		80	

AFGHAN NATIONAL POLICE
STANDARD DESIGN
VEHICLE MAINTENANCE & POL BUILDING
LIGHT FIXTURE SCHEDULE

SHEET REFERENCE NUMBER: **E4**

FIXTURE MARK 'B'



WET LOCATION WRAP AROUND SURFACE/PENDANT MOUNTED FLUORESCENT FIXTURE WITH PRISMATIC ACRYLIC LENS AND ELECTRONIC BALLAST.

FIXTURE MARK 'B2': SAME FIXTURE AS 'B' WITH EMERGENCY BALLAST.

FIXTURE MARK 'C'



INCANDESCENT ONE PIECE WITH APPROVED LENS, STABILIZED HIGH IMPACT POLY CARBONATE

FIXTURE MARK 'H'



REMOTE HEAD EXTERIOR LIGHT HEAD POWERED FROM EXIT SIGN BATTERY—12V DOUBLE HEAD CORROSION RESISTANT WITH UL34 WEATHERPROOF CONSTRUCTION

FIXTURE MARK 'E'



UNIVERSAL MOUNT ENGINEER GRADE
THERMOPLASTIC HOUSING EXIT SIGN WITH
LED LAMPS, RED LETTERS 6" IN HEIGHT
WITH ARROWS AS INDICATED, WITH 12V
CADMIUM BATTERY

FIXTURE MARK 'J'



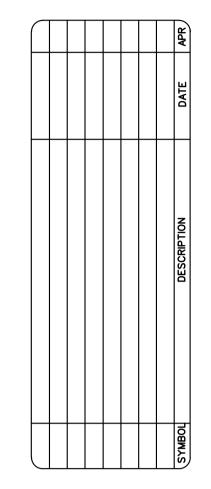
EXPLOSION—PROOF (2) LAMP FIXTURE PROVIDED WITH LAMPS. COPPER FREE, ALUMINUM HOUSING, TEMPERED BOROSILICATE GLASS, AND BIAX LAMPS WITH WIRE GUARD

		LIGHTING FI	XTURE SC	HEDULE	
FIXTURE MARK	STYLE NUMBER AND TYPE	NUMBER AND TYPE OF LAMPS	VOLTAGE	MOUNTING	NOTES
В	WET LOCATION WRAP AROUND SURFACE/PENDANT MOUNTED FLUORESCENT FIXTURE WITH PRISMATIC ACRYLIC LENS AND ELECTRONIC BALLAST	(2) 32W 3500K	220V – 1ø 50HZ	PENDANT MOUNTED FROM SLOPED CEILINGS	FURNISHED WITH ELECTRONIC BALLAST, VIRGIN ACRYLIC WRAP AROUND LENS.
B2	SAME AS FIXTURE 'B' WITH EMERGENCY BALLAST	(2) 32W 3500K	220V – 1ø 50HZ	PENDANT MOUNTED FROM SLOPED CEILINGS	FURNISHED WITH ELECTRONIC BALLAST, VIRGIN ACRYLIC WRAP AROUND LENS. EMERGENCY BALLAST WITH SELF TEST SWITCH.
С	INCANDESCENT ONE PIECE W/ APPROVED LENS STABILIZED HIGH IMPACT POLY CARBONATE.	(1) A19 — 100W INCANDESCENT	220V – 1ø 50HZ	WALL MOUNTED ABOVE EXTERIOR DOORS	
	REMOTE HEAD EXTERIOR LIGHT HEAD POWERED FROM EXIT SIGN BATTERY— 12V DOUBLE HEAD CORROSION RESISTANT WITH UL34 WEATHERPROOF CONSTRUCTION	(2) 12W/12V HALOGEN LAMP	12V – 1ø 50HZ	EXTERIOR WALL MOUNTED AT TOP OF DOOR HEIGHT	
J	EXPLOSION—PROOF (2) LAMP FIXTURE PROVIDED WITH LAMPS. COPPER FREE, ALUMINUM HOUSING, TEMPERED BOROSILICATE GLASS, AND BIAX LAMPS WITH WIRE GUARD	(2) 40W 3500K BIAX FLUORESCENT LAMPS	220V – 1ø 50HZ	PENDANT MOUNTED FROM SLOPED CEILINGS	FURNISHED WITH LAMPS AND WIRE GUARD
E	UNIVERSAL MOUNT ENGINEER GRADE THERMOPLASTIC HOUSING EXIT SIGN WITH LED LAMPS, RED LETTERS 6" IN HEIGHT WITH ARROWS AS INDICATED, WITH 12V CADMIUM BATTERY WITH REMOTE HEAD CAPABILITY	LED LAMPS	220V - 1ø 50HZ	UNIVERSAL MOUNTING	

J1 SURFACE MOUNTED ASYM. A.I.C. MIN. **PANELBOARD** AMP. MAIN LUGS (OR) 150 AMP. MAIN BREAKER W/ AMP. TRIP CIRCUIT BREAKER TYPE 380/220 VOLTS 3 PHASE 4 WIRE 50 HZ 150 AMP. BUS CONDUIT GND WIRE 을 TRIP . TRIP SWIRE GND CONDUIT MM2 MM LOAD-V.A. LOAD-V.A. LOAD SERVED LOAD SERVED AØ BØ CØ AØ BØ CØ 1 | 20 | 1 | 4.0 | 4.0 | 20 **0.**7 20 | 4.0 | 4.0 | 1 | 20 | 2 LIGHTING - 105, 106 1.7 LIGHTING - 101-105 3 20 1 4.0 4.0 20 RECEPTACLES - EXTERIOR Ø.8 Ø**.**3 LIGHTING - POL BUILDING 20 | 4.0 | 4.0 | 1 | 20 | 4 20 4.0 4.0 1 20 6 5 20 1 4.0 4.0 20 RECEPTACLES - EXTERIOR Ø**.**6 RECEPTACLES - 105, 106 1.0 20 4.0 4.0 1 20 8 7 | 20 | 1 | 4.0 | 4.0 | 20 RECEPTACLES - 101 Ø**.**8 1.0 RECEPTACLES - 105, 106 20 4.0 4.0 1 20 10 9 20 1 4.0 4.0 20 1.0 F.A.C.P. Ø**.**5 RECEPTACLES - 102-104 20 4.0 4.0 2 20 14 9.1 2 | 16.0 | 16.0 | 32 AIR COMPRESSOR (BY OTHERS) BATTERY CHARGER 13 15 20 1 4.0 4.0 20 EXHAUST FAN - 102, 103 Ø**.**5 Ø**.**5 EXHAUST FAN - 104, 106 20 | 4.0 | 4.0 | 1 | 20 | 16 | 20 4.0 4.0 1 20 18 2.5 Ø**.**7 EXHAUST FAN - 106 ELECTRIC HEAT - 106 20 2 | 4.0 | 4.0 | 20 20 4.0 4.0 1 20 20 **Ø.**7 EXHAUST FAN - 106 21 20 1 4.0 4.0 20 RECEPTACLES - POL BUILDING Ø**.**6 2.5 20 | 4.0 | 4.0 | 2 | 20 ELECTRIC HEAT - 106 24 23 2.5 2.5 4.0 4.0 20 20 ELECTRIC UNIT HEATER - 106 25 20 | 4.0 | 4.0 | 1 | 20 | 26 Ø**.**5 LIGHTING-MAINTENANCE PIT 20 28 27 29 2.5 1.0 RECEPTACLES-MAINTENANCE PIT 20 4.0 4.0 1 2 | 4.0 | 4.0 | 20 | ELECTRIC UNIT HEATER - 106 20 20 4.0 4.0 1 20 30 2.5 Ø**.**2 CEILING FAN 31 20 32 SPARE 2 | 4.0 | 4.0 | 20 | 20 ELECTRIC UNIT HEATER - 101 33 2.0 20 34 SPARE 1 20 36 SPARE 1.3 2Ø 2 | 4.0 | 4.0 | 20 ELECTRIC UNIT HEATER - 103 20 38 SPARE | 1 | 39 | 20 | SPARE 1 20 40 SPARE 41 20 1 SPARE 1 20 42 SPARE 19.9 | 7.4 | 18.5 | 2.9 | 4.8 | 4.4 TOTAL CONN. LOAD AØ <u>22.8</u> BØ <u>12.2</u> CØ <u>22.9</u> PER PHASE (KVA): TOTAL CONN. LOAD 57.9 KVA. 70 % DEMAND = ESTIMATED DEMAND LOAD SUPPLIED FROM SWITCHGEAR MAIN DISTRIBUTION

* MAIN BREAKER SHALL BE EARTH GROUND TYPE

US Army Corps of Engineers Afghanistan Engineer District



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Michael Baker Jr., Inc A unit of Michael Baker (Airside Business Park 100 Airside Drive Moon Township PA 15108 www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
VEHICLE MAINTENANCE & POL BUILDING
PANEL SCHEDULES AND RISER DIAGRAM

SHEET REFERENCE NUMBER:

E5